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ABSTRACT

Student achievement in grades kindergarten through four in the partial immersion program of the Ottawa Roman Catholic Separate School Board was investigated. Achievement in English and French language arts, mathematics, social studies, and science was assessed using instruments referenced to learning objectives. Student and teacher background questionnaires were also developed and used in the study. The results are reported and compared to those of students in unilingual programs. The overall results show that the partial immersion students are performing satisfactorily and comparably to students in other programs. A more detailed analysis of the results reveals ways in which the instructional emphases limit students' learning and performance. Program objectives that emphasize applications to real-life situations are among the least taught in the program. Therefore, performance is weakest in these areas and strongest in the most passive skill areas such as listening. Recommendations are made regarding policies, resource personnel, and followup testing. Evaluation instruments, criteria, questionnaires, and results are appended in a separate volume. (RW)

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ED225352

THE OTTAWA ROMAN CATHOLIC SEPARATE SCHOOL BOARD

AN ASSESSMENT OF THE 50/50 PROGRAMME IN THE ENGLISH SECTOR SCHOOLS

FEBRUARY 1982

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R.J.W.

M.I.C.

"An Assessment of the 50-50 Programme"

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PREFACE

This report is in two sections. One part discusses the project in sufficient detail to support the interpretations and recommendations by documenting the results in as objective a way as possible. The second part, the Appendices, contain most of the actual documentation, data and analyses.

Our goal was to make the first section readable and intelligible to any interested person whether or not such a person was familiar with research design and jargon. Technical issues, therefore, have been given low priority; findings have been highlighted. Individuals with more interest in the data gathering and analysis will find the Appendices a virtual cafeteria of resources to be explored.

I

INTRODUCTION

WHY THE ASSESSMENT WAS DONE

The partial immersion program, usually referred to as the 50-50 programme, is the prescribed curriculum for the vast majority of children attending the Ottawa R.C.S.S. Board's English schools from Junior Kindergarten through Grade 4. The board is presently facing a number of critical decisions affecting its future, decisions which inevitably involve programming. Before altering the programme in fundamental, perhaps irreversible ways, however, it is necessary to determine how the present programme is actually functioning.

As a result, the board commissioned a study aimed at determining the degree to which the pupils enrolled in the 50-50 programme were meeting the goals of both the English Language Programme and the Second Language Programme. This broad aim was later re-stated to include two overall questions:

1. How well are our students achieving basic objectives in their programmes?
2. Are there aspects of our programmes that can account for any observed differences from our expectations?

The re-statement had the desirable effect of including some exploration of possible contributing factors to account for differences, thereby lending empirical support for recommendations that might emerge from the study.

In later discussions with officials of the board, the questions for investigation were refined even further. Eventually, six questions formed the basis of the present study:

1. What levels of achievement are being attained by the Ottawa R.C.S.S.B. pupils in the subject areas taught in the bilingual programme?
2. How do these levels compare with the levels of achievement of pupils in unilingual programmes elsewhere?
3. Has the change from a 50-50 to an extended L_2 programme had a significant effect on achievement for students presently in Grades 6 and 7?
4. To what extent is the Ottawa R.C.S.S.B. bilingual programme compatible with the philosophy, aims, objectives, and methodology outlined in Ministry of Education documents?

5. If significant differences in expectations and achievement prevail, are there aspects of the bilingual programme that can account for these differences?
6. If the bilingual programme is a significant factor in accounting for differences in pupil achievement, at what grade level and in what subject areas does it first become so?

These questions, then, became the operational goals of the assessment. The answers to them form the major part of this report.

II

PROCEDURES

How the Assessment Was Done

The overall design of the assessment is provided in Figure 1. While the timeline was later constricted in order to provide the student achievement data earlier, this basic plan as outlined here was followed. Two aspects of the plan deserve mention. First, the involvement of the superintendent and coordinators throughout the project was deliberate and necessary. The history of evaluations completed by outsiders alone is not a happy one; often, bound reports (rather than educational action) result from such assessments. To a large degree, the present evaluation was a co-operative venture throughout. Secondly, the use of criterion-referenced (or, more accurately, objectives-referenced) instruments for student achievement meant that a necessary interpretation stage had to be added to the assessment.

In the more typical standardized assessment practice, the norms of the population at large are used as the standard against which the board's students are compared. Unfortunately, this process usually means that the tests selected have less than a full and complete congruence

FIGURE 1
PLANNING DOCUMENT FOR O.R.C.S.S.B.'S 50-50 PROGRAMME EVALUATION

RESPONSIBILITY	OCT/NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
1. Evaluation consultants	-Plan overall evaluation strategy and program -develop representative item sets for each objective -Plan program elements data collection	-Complete item selection and generation -Construct data collection instruments for program elements selected for inclusion -Construct sampling plan for testing, both pilot and final	-Prepare final copies for pilot testing -Analyze pilot data and use to construct final forms -Check on compatability of Ottawa and Provincial documents	-Analyze results from final forms' administration -Prepare materials for interpretation panel(s) -Complete data analysis, linking achievement data to program elements	-Attend interpretation panel as technical support -Write final report for submission by March 15
2. Superintendent, coordinators, and consultants	-Develop set of objectives for evaluation purposes -Suggest program elements of importance to 50/50 program -Review item sets for objectives	-Consult on technical aspects: sampling; appropriateness of data collection instruments	-Consult on final forms of instruments	-Select interpretation panel(s)	-Convene interpretation panel (one day)
3. Technical and administrative	-Arrange for local/ regional sample of 400 pupils per grade level for comparative purposes	-Select and arrange for pilot testing of instruments (3 classes per form) -Questionnaires piloted at same time	-Print final copies of all instruments used in pilot	-Print final copies of all instruments used in evaluation -Administer and score all instruments to all samples	

to either the board's or the province's goals. It is also unclear whether an achievement level equal to that attained in the country or even in the province represents the best guide for local decision-making. Clearly, such information does not lead naturally into programme improvement because the measures used do not typically have a high degree of content validity.

The use of criterion-referenced instruments, however, presents its own set of problems. Given that items are constructed that do more closely represent the curriculum, what standards should be applied to the achievement? Should these be higher than the usual 50% standard favoured by so many as equal to "passing"? Should we expect everyone to get all the items right on those basic skills questions emphasized in school? Interpretation panels, made up of practicing educators as well as non-educators, help to sort through this issue by examining both the questions and the achievement and "evaluating" both. Thus, standards here represent a consensus of the community involved rather than depending upon a shaky comparison of achievement on frequently invalid items to that of an ill-chosen population.

Instrument Development:

The decision to use objectives-referenced items meant that tests could not be picked "off the shelf" and used in the assessment. It meant, instead, that they had to be constructed. A decision was made to evaluate four aspects of the programme: Language Arts (English), Language Arts (French), Mathematics, and Environmental Studies (Social Studies and Science). Objectives for these four components were derived from curriculum documents in use in the board. These objectives were then validated by the coordinators responsible for these subject areas.

Once the objectives were derived, it was possible to develop weights. Some objectives are clearly more important than others; therefore, it is important in an assessment to weigh these more than other, less important ones. Still others were not assessed at all. (The lists of objectives form Appendix A of this report.)

Most of the objectives could be assessed using paper-and-pencil instruments, but some of the objectives of the Language Arts (French) programme required a different type of instrument. Consequently, an oral-aural performance component was incorporated as part of the assessment.

The objectives to be assessed were selected from the Junior Kindergarten through Grade 4 curriculum, with the emphasis falling on the last year of the primary cycle. While it was the Grade 4 population of the board which was actually tested, these students were examined on material that had been taught to them during their previous five years in the system.

As a technique for ensuring content validity of the instruments, the two coordinators (and others they brought into the activity) critiqued the objectives and sample items purporting to measure these objectives. Their comments and later ones evaluating the pilot forms of the instruments were extremely useful in ensuring that the behaviours called forth by the assessment items did, in fact, represent important learning outcomes of the Ottawa R.C.S.S.B.'s programmes.

Pilot Testing:

Approximately twice as many items as were actually used in the assessment were piloted in six of the Board's schools in January, 1982. From an item and test analysis conducted on these results, a final collection of items was formed. The two forms of the final, paper-and-pencil testing instruments are provided in Appendix B to this report.

The analysis of the pilot data did not involve selecting items of given difficulty and discrimination, the usual pattern in test development. If the vast majority of the piloted students "got an item right" that item could still appear on the final forms as long as there was also evidence that the item was still measuring something that had been learned in school as part of the curriculum. To a large extent, then, the assessment instruments were designed to find out what students actually knew. They were not designed to have half the students fail, either an item or a test.

Other Instruments:

Two questionnaires were also used in the study. One questionnaire was developed for student use and was included along with the items on the student assessment forms. Collecting the information in this way allowed for the analysis of students' background data (e.g. how long students had been enrolled in the 50-50 programme, what language the student spoke at home before coming to school, etc.) in terms of their achievement on the items.

Another questionnaire was developed for the teachers involved in the assessment. While teachers had been surveyed already as part of the board's larger goals, certain additional questions were asked of the Grade 4 teachers to provide programme information related to actual classes of students assessed. (The questionnaires for both students and teachers form Appendix C of this report.)

Finally, an oral-aural component was also developed for this assesment. This assessment instrument involved a game approach: students, assessed individually, were asked to guess what was in a box provided by the tester. This variant on "Twenty Questions" involved the student in linguistic interaction with the evaluator, asking questions and listening to the answers. At the end of approximately 4 minutes, the child was given the contents of the box as a reward, and the evaluator recorded information about the child's performance. (An example of the recording form is also provided in Appendix D of this report.) Where necessary, the evaluator used additional questions to probe the student's linguistic competence.

Testing:

Classroom testing in the two boards involved in the assessment occurred early in February, 1982 over a five day period. Testers (largely experienced teachers studying Education in a graduate programme) were used to gather the data in a standardized way. Each pupil answered questions in either Language Arts (French) and Environmental Studies or Language Arts (English) and Mathematics. Total testing time was 55 minutes. Students were given at least a fifteen minute break approximately half-way through the testing. A total of 526 students took part in the assessment, a participation rate of 91% (based on January, 1982 enrolment figures).

In the other board assessed, testing was performed on a random sample of 224 students only. The purpose of this testing was to generate comparative data to aid in answering Question 2 of the programme evaluation.

For the oral testing, a random sample of the board's Grade 4 students (100 in all) was tested individually to determine, among other things, the students' fluency in the second language at this stage of the programme.

Data Analysis:

A combination of descriptive and inferential analyses was carried out on the test and questionnaire data. First of all, standard item analyses were performed on the children's responses to produce p-values (difficulty levels) as well as item-test correlations (point biserials).

These item data were then combined in two ways: by content and by conceptual level. By summing over all the questions in Reading, in the Language Arts (English) section, for example, it was possible to generate a "Reading" score for each student. Also, by summing over all knowledge level questions, those requiring the student to recognize or differentiate among known responses, another, more behavioural score could be generated from the same data. (See the Results section to see how this information was used.)

In addition, cross tabulations of the background data collected from the students were made on total scores for each booklet, as defined by subject area.

Because of the need for quick turnaround time, pupil responses were recorded on NCR optical-scorable forms and data analyses were performed on the responses by the Educational Research Institute of B.C. These forms and this testing organization guaranteed the speedy and accurate analysis needed by the tight time-line under which the project was functioning.

Answering Question 4, however, required another data analysis technique called content analysis. Because this one research question asked about the degree to which the curricula the board had developed matched the goals mandated by the province, it was necessary to match two sets of materials.

The identification of the objectives of the Ottawa R.C.S.S.B.'s curriculum was the first step in that process. The next step involved identifying criteria from the Ministry's documents. Matching the objectives to the criteria (content analysis) results in some of the conclusions reported in the results section which follows this chapter. Some 13 classroom visitations provided additional data for this question.

III

RESULTS

What the Assessment Found

The most straightforward way to present the results of the evaluation would seem to be to discuss each of the six questions in turn. That is the approach that will be taken here.

1. What levels of achievement are being attained by the Ottawa R.C.S.S.B. pupils in the subject areas taught in the bilingual programme?

Two main devices were used to answer this question: paper-and-pencil tests and an oral-aural performance assessment. Each paper-and-pencil test item represented an important outcome of the board's programme. Not all important objectives could be assessed, but the items that were answered were representative of the total programme, and were weighted accordingly. The testing plan, arranged by content and by cognitive level, is produced as Table 1.

Table 1

Tables of Specifications for French and English Language Instruments

(Cell Values = Number of Items, by Content and by Behavioural Level)

	French Instrument Behavioural Level					English Instrument Behavioural Level			
Content	Know-ledge	Appli-cation	Evalu-ation	Total	Content	Know-ledge	Appli-cation	Evalu-ation	Total
Lecture	5	5		10	Language	2	6		8
Expression Ecrite	9	5		14	Writing	6	6	1	13
Expression Orale	9			9	Reading	4	5	1	10
Etudes Sociales	5	5	3	13	Number Concepts	8	3	3	14
Etudes Sciences	4	4	4	12	Geometry Measurement & Graphing	3	3	5	11
Total	32	19	7	58	Total	23	23	10	56

P-Values:

Each item produced a "p-value". This statistic represents the proportion of the board's students who were able to answer this item correctly. (Another way to view this figure is to think of it as the "average" score on that item.)

These values can fluctuate for two reasons. First, the students may or may not know the concept being assessed. They may not remember; they may not have been taught the concept; or they may not have the ability to have learned it very well. Secondly, the item itself will contribute to the score. It may be too wordy; its foils may be too difficult--in other words, some "errors" are due to questions while others are due to students. Every effort was made during the piloting and the subsequent analyses to reduce the second reason for error. Item error, however, can never be completely eliminated.

One of the ways that can be used to estimate whether or not students believe they have been taught the material is to include, as one of the options, the phrase: "I don't know/Je ne sais pas". The students were encouraged to select this choice whenever they were quite lost in their attempt to answer the question. The degree to which students use this option is one measure of their perception of the opportunity to learn the concept being taught. Students who have recently moved to Ottawa, for example, would be able to select this choice often if the programme from which they had come was very different from the 50-50 programme.

Oral-aural testing:

Because so many of the Language Arts (French) objectives (at the primary level especially) stress a speaking-listening approach, it was necessary to develop a technique to evaluate the pupil's ability to function orally in the second language. A variation on the game "Twenty-Questions" was developed for this purpose. The game encourages the students to ask questions, to listen to the answers, and to think about the problem--all in the second language. For each child, a prize was hidden in a box, and the student's task was to guess the contents of the box. Every student, successful or not, was given the prize at the end of the testing session.

The evaluation of the students was performed by a second-language expert. Professor F. Howard is a native French speaker, completely bilingual, who trains teachers for second language programmes at Queen's University. One of her current research interests is in the area of second language testing (Howard, 1981). With her guidance, a reporting form was created and pilot-tested with a small sample of students. With some revisions, this form was used to report her judgements of the linguistic competence of the students.

Transcripts of three of the 100 students assessed in this manner are included as Appendix E of this report. These may be useful as "anchors" for the expert judgements given on the measures. These performance records serve as the operational criteria of competence included on the forms, and can be interpreted in the same manner as criterion-referenced items can in the paper-and-pencil format. In the former situation, however, we have relied on expert rather than community judgements about the level of attainment.

Because of the time involved in clinical testing of this sort, it was not deemed possible, nor particularly necessary, to test every child in the system. A random sample of 108 students, selected first by school and then by classroom, provided excellent estimates of the total board's achievement in this important element of the 50-50 programme. (Eight students were absent on the day set aside for their testing, resulting in a net sample of 100).

Interpretation Panel:

On February 23rd, a panel comprised of trustees, parents, and educators met to consider the results of the written part of the assessment. Using a modified Angoff approach, this panel set up expectations for the board's students and then compared these expectations to the results that were actually obtained. From this comparison, they generated ratings of satisfaction both for items and for content areas, individually and collectively.

A more complete description of the process is given in Appendix F. It was this final step in the assessment that provided the basic answer to: How well are our students doing?

Results:

The complete item by item results for the paper-and-pencil testing are given in Appendix G. The results will be interpreted here in terms of content and then in terms of cognitive outcomes. Table 2 provides a com-

Table 2

Frequency Distributions of Total Scores on English & French Language Instrument

French Language Instrument

TEST NUMBER 1 TOTAL
MEAN 33 42 STD DEV 8.58 OUT OF: 58
NUMBER OF STUDENTS COMPLETING SUBTEST 257

RAW SCORE	%AGE	%ILE	STANINE	NO	
54	93%	99P	9	1	X
53	91%	99P	9	0	
52	90%	99P	9	1	X
51	88%	99P	9	1	X
50	86%	99P	9	1	X
49	84%	98P	9	4	XXXX
48	83%	96P	8	5	XXXXX
47	81%	94P	8	5	XXXXX
46	79%	92P	8	3	XXX
45	78%	90P	8	8	XXXXXXXX
44	76%	88P	7	6	XXXXXX
43	74%	85P	7	9	XXXXXXXXX
42	72%	82P	7	7	XXXXXXX
41	71%	79P	7	7	XXXXXXX
40	69%	76P	6	7	XXXXXXX
39	67%	73P	6	7	XXXXXXX
38	66%	70P	6	8	XXXXXXXX
37	64%	67P	6	10	XXXXXXXXXX
36	62%	62P	6	16	XXXXXXXXXXXXXXXX
35	60%	56P	5	14	XXXXXXXXXXXXXX
34	59%	51P	5	10	XXXXXXXXXX
33	57%	47P	5	11	XXXXXXXXXXX
32	55%	43P	5	9	XXXXXXXXX
31	53%	40P	4	9	XXXXXXXXX
30	52%	35P	4	15	XXXXXXXXXXXXXXX
29	50%	31P	4	7	XXXXXXX
28	48%	28P	4	10	XXXXXXXXXX
27	47%	25P	4	6	XXXXXX
26	45%	21P	3	12	XXXXXXXXXXXX
25	43%	17P	3	9	XXXXXXXXX
24	41%	14P	3	7	XXXXXXX
23	40%	11P	3	7	XXXXXXX
22	38%	8P	2	8	XXXXXXXX
21	36%	6P	2	2	XX
20	34%	5P	2	2	XX
19	33%	5P	2	1	X
18	31%	4P	2	1	X
17	29%	4P	1	3	XXX
16	28%	2P	1	4	XXXX
15	26%	1P	1	1	X
14	24%	1P	1	1	X
13	22%	1P	1	1	X
12	21%	1P	1	0	
-TO-	-TO-	-TO-			
7	12%	1P	1	0	
6	10%	1P	1	1	X

English Language Instrument

TEST NUMBER 1 TOTAL
MEAN 35.70 STD DEV 8.92 OUT OF: 56
NUMBER OF STUDENTS COMPLETING SUBTEST 262

RAW SCORE	%AGE	%ILE	STANINE	NO	
54	96%	99P	9	1	X
53	95%	99P	9	1	X
52	93%	99P	8	2	XX
51	91%	98P	9	2	XX
50	89%	97P	9	2	XX
49	87%	95P	8	9	XXXXXXXXX
48	86%	92P	8	6	XXXXXX
47	84%	90P	8	9	XXXXXXXXX
46	82%	87P	7	6	XXXXXX
45	80%	84P	7	10	XXXXXXXXXX
44	79%	79P	7	13	XXXXXXXXXXXXX
43	77%	75P	6	11	XXXXXXXXXXX
42	75%	71P	6	10	XXXXXXXXXX
41	73%	68P	6	4	XXXX
40	71%	65P	6	10	XXXXXXXXXX
39	70%	62P	6	9	XXXXXXXXX
38	68%	58P	5	10	XXXXXXXXXX
37	66%	55P	5	8	XXXXXXXX
36	64%	51P	5	10	XXXXXXXXXX
35	62%	47P	5	11	XXXXXXXXXXX
34	61%	42P	5	16	XXXXXXXXXXXXXXXX
33	59%	36P	4	13	XXXXXXXXXXXXX
32	57%	33P	4	7	XXXXXXX
31	55%	30P	4	7	XXXXXXX
30	54%	27P	4	9	XXXXXXXXX
29	52%	24P	4	8	XXXXXXXX
28	50%	20P	3	9	XXXXXXXXX
27	48%	17P	3	8	XXXXXXXX
26	46%	15P	3	4	XXXX
25	45%	13P	3	5	XXXXX
24	43%	10P	2	9	XXXXXXXXX
23	41%	8P	2	5	XXXXX
22	39%	6P	2	5	XXXXX
21	37%	5P	2	1	X
20	36%	5P	2	0	
19	34%	4P	1	4	XXXX
18	32%	3P	1	0	
17	30%	3P	1	1	X
16	29%	2P	1	1	X
15	27%	2P	1	2	XX
14	25%	1P	1	1	X
13	23%	1P	1	1	X
12	21%	1P	1	0	
11	20%	1P	1	1	X
10	18%	1P	1	1	X

plete score profile for each of the two forms.

Of most importance in this total score distribution is the "shape" of the results. On many objectives-based assessments, the distribution is left-skewed, with a large number of results at the upper end with fewer and fewer results occurring towards the middle and lower reaches of the distribution. The pattern in both distributions in the Ottawa R.C.S.S.B.'s results is one of much greater spread than might be expected. An examination of the individual class results indicates that most of this variability occurs within classes rather than between classes. Although class means throughout the system do vary from one another, this cause of variation of results accounts for substantially less of the spread than that found within the typical classroom.

The causes of the substantial deviations in total scores can be examined further by examining the sub-test results for each instrument. Each instrument has been sub-divided in two ways. First of all, each has been analyzed in terms of content: In the English language test, the content breakdown was as follows:

1. Language
2. Writing
3. Reading
4. Number Concepts
5. Geometry, Measurement, and Graphing

In addition, the same results were analyzed according to the cognitive operations required of the students (summed across all the subjects) in answering the items:

1. Knowledge - in which the student must identify or recognize an example of some concept;
2. Application - in which the student must apply some concept in a new situation;
3. Evaluation - in which the student must analyze and judge a situation presented to him.

These latter distinctions are not as apparently clear-cut as those involved in subject-content distinctions, but they may be useful in determining the orientation taken by instruction in a given programme.

In the French language instrument, the cognitive categories were the same as those in the English language assessment, but the content ones obviously were different:

1. Lecture
2. Expression Ecrite
3. Expression Orale
4. Etudes Sociales
5. Etudes Sciences

Tables 3(a) and 3(b) display the results of the subject-content and cognitive categories sub-divisions for each of the two total tests. Most of the variability in achievement seems to be occurring in the following areas:

French Language Assessment

Content

Etudes Sociales

Etudes Sciences

Cognitive

Evaluation

English Language Assessment

Content

Geometry, Measurement, & Graphing

Writing

Language

Cognitive

Evaluation

Table 3(a)

Sub-Test Results on French Language Instruments, By Content & By Cognitive Level

```
------------------------------------------------------------------------------------------
TEST NUMBER    2      LECTURE
    MEAN       7.28      STD DEV      1.77     OUT OF:   10
         NUMBER OF STUDENTS COMPLETING SUBTEST    264
 RAW
SCORE   %AGE   %ILE   STANINE   NO

  10    100%    95P      8      24 XXXXXXXXXXXXXXXXXXXXXXXX
   9     90%    82P      7      47 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8     80%    62P      6      59 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7     70%    41P      5      53 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6     60%    23P      3      41 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5     50%    11P      3      21 XXXXXXXXXXXXXXXXXXXXX
   4     40%     5P      2      13 XXXXXXXXXXXXX
   3     30%     2P      1       3 XXX
   2     20%     1P      1       2 XX
   1     10%     1P      1       0
   0      0%     1P      1       1 X

----------

TEST NUMBER    3      EXPRESSION ECRITE
    MEAN       8.10      STD DEV      2.51     OUT OF:   14
         NUMBER OF STUDENTS COMPLETING SUBTEST    264
 RAW
SCORE   %AGE   %ILE   STANINE   NO

  14    100%    99P      9       2 XX
  13     93%    98P      9       5 XXXXX
  12     86%    95P      8      15 XXXXXXXXXXXXXXX
  11     79%    87P      7      24 XXXXXXXXXXXXXXXXXXXXXXXX
  10     71%    76P      6      37 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   9     64%    62P      6      35 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8     57%    48P      5      40 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7     50%    33P      4      37 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6     43%    20P      3      32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5     36%    11P      2      17 XXXXXXXXXXXXXXXXX
   4     29%     6P      2       9 XXXXXXXXX
   3     21%     3P      1       5 XXXXX
   2     14%     1P      1       5 XXXXX
   1      7%     1P      1       0
   0      0%     1P      1       1 X

----------
```

Table 3(a) cont'd

```
------------------------------------------------------------------------------------------

        TEST NUMBER    4     EXPRESSION ORALE
            MEAN       5.15      STD DEV       1.79      OUT OF:    9
                 NUMBER OF STUDENTS COMPLETING SUBTEST   264
         RAW
        SCORE   %AGE   %ILE   STANINE   NO.

            9   100%    99P      9        5 XXXXX
            8    89%    94P      8       22 XXXXXXXXXXXXXXXXXXXXXX
            7    78%    83P      7       37 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            6    67%    68P      6       42 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            5    56%    47P      5       68 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            4    44%    25P      4       47 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            3    33%    12P      3       21 XXXXXXXXXXXXXXXXXXXXX
            2    22%     5P      2       16 XXXXXXXXXXXXXXXX
            1    11%     1P      1        5 XXXXX
            0     0%     1P      1        1 X

       ----------

        TEST NUMBER    5     ETUDES SOCIALES
            MEAN       7.30      STD DEV       2.93      OUT OF:   13
                 NUMBER OF STUDENTS COMPLETING SUBTEST   257
         RAW
        SCORE   %AGE   %ILE   STANINE   NO.

           13   100%    99P      9        6 XXXXXX
           12    92%    96P      8       11 XXXXXXXXXXX
           11    85%    89P      8       22 XXXXXXXXXXXXXXXXXXXXXX
           10    77%    79P      7       29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            9    69%    68P      6       30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            8    62%    56P      5       29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            7    54%    45P      5       29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
            6    46%    34P      4       26 XXXXXXXXXXXXXXXXXXXXXXXXXX
            5    38%    25P      4       23 XXXXXXXXXXXXXXXXXXXXXXX
            4    31%    16P      3       24 XXXXXXXXXXXXXXXXXXXXXXXX
            3    23%     9P      2       12 XXXXXXXXXXXX
            2    15%     4P      2       11 XXXXXXXXXXX
            1     8%     1P      1        5 XXXXX

       ----------
```

Table 3(a) cont'd

```
-----------------------------------------------------------------------------------------

TEST NUMBER    6     ETUDES SCIENCES
    MEAN       5.48     STD DEV      2.34     OUT OF:  12
         NUMBER OF STUDENTS COMPLETING SUBTEST    264
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

  11    92%   99P     9       7 XXXXXXX
  10    83%   97P     9       4 XXXX
   9    75%   93P     8      16 XXXXXXXXXXXXXXXX
   8    67%   84P     7      29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7    58%   73P     6      33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6    50%   59P     5      36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5    42%   44P     5      47 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   4    33%   29P     4      33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   3    25%   16P     3      35 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   2    17%    7P     2      13 XXXXXXXXXXXXX
   1     8%    2P     1      10 XXXXXXXXXX
   0     0%    1P     1       1 X
```

Table 3(a) cont'd

NO.	SUB-TEST	MEAN	%-AGE	STD. DEV.	NUMBER		DISTRICT QUARTILE	QUARTILE
1	TOTAL	33.38	57%	8.59	257	75TH:	39.7	
						50TH:	33.8	
						25TH:	27.0	
2	LECTURE	7.28	72%	1.77	264	75TH:	8.6	
						50TH:	7.4	
						25TH:	6.1	
3	EXPRESSION ECRITE	8.10	57%	2.51	264	75TH:	9.9	
						50TH:	8.1	
						25TH:	6.4	
4	EXPRESSION ORALE	5.15	57%	1.79	264	75TH:	6.5	
						50TH:	5.1	
						25TH:	4.0	
5	ETUDES SOCIALES	7.30	56%	2.93	257	75TH:	9.6	
						50TH:	7.5	
						25TH:	5.0	
6	ETUDES SCIENCES	5.48	45%	2.34	264	75TH:	7.2	
						50TH:	5.4	
						25TH:	3.7	

Table 3(a) cont'd

```
------------------------------------------------------------------------------------------
        TEST NUMBER    2     KNOWLEDGE
            MEAN      20.00      STD DEV      4.31     OUT OF:   32
                 NUMBER OF STUDENTS COMPLETING SUBTEST   264
         RAW
        SCORE   %AGE   %ILE   STANINE   NO

          30     94%    99P      9        2 XX
          29     91%    99P      9        3 XXX
          28     87%    97P      9        4 XXXX
          27     84%    96P      9        3 XXX
          26     81%    93P      8       11 XXXXXXXXXXX
          25     78%    88P      7       18 XXXXXXXXXXXXXXXXXX
          24     75%    82P      7       15 XXXXXXXXXXXXXXX
          23     72%    74P      6       23 XXXXXXXXXXXXXXXXXXXXXXX
          22     69%    66P      6       22 XXXXXXXXXXXXXXXXXXXXXX
          21     66%    58P      5       21 XXXXXXXXXXXXXXXXXXXXX
          20     62%    49P      5       23 XXXXXXXXXXXXXXXXXXXXXXX
          19     59%    40P      5       25 XXXXXXXXXXXXXXXXXXXXXXXXX
          18     56%    31P      4       25 XXXXXXXXXXXXXXXXXXXXXXXXX
          17     53%    23P      3       19 XXXXXXXXXXXXXXXXXXX
          16     50%    17P      3       12 XXXXXXXXXXXX
          15     47%    13P      3       10 XXXXXXXXXX
          14     44%     8P      2       12 XXXXXXXXXXXX
          13     41%     5P      2        6 XXXXXX
          12     37%     3P      1        3 XXX
          11     34%     3P      1        0
          10     31%     2P      1        2 XX
           9     28%     2P      1        2 XX
           8     25%     1P      1        1 X
           7     22%     1P      1        0
           6     19%     1P      1        1 X
           5     16%     1P      1        1 X

       ----------
```

Table 3(a) cont'd

```
------------------------------------------------------------------------------------
      TEST NUMBER    3      APPLICATION
          MEAN        9.88       STD DEV        3.58      OUT OF:    19
                NUMBER OF STUDENTS COMPLETING SUBTEST    264
       RAW
      SCORE   %AGE   %ILE   STANINE   NO.

        18     95%    99P      9        2 XX
        17     89%    99P      9        2 XX
        16     84%    97P      9       10 XXXXXXXXXX
        15     79%    91P      8       18 XXXXXXXXXXXXXXXXXX
        14     74%    86P      7       12 XXXXXXXXXXXX
        13     68%    80P      7       19 XXXXXXXXXXXXXXXXXXX
        12     63%    71P      6       28 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
        11     58%    59P      5       32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        10     53%    50P      5       20 XXXXXXXXXXXXXXXXXXXX
         9     47%    41P      5       25 XXXXXXXXXXXXXXXXXXXXXXXXX
         8     42%    31P      4       27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
         7     37%    23P      3       17 XXXXXXXXXXXXXXXXX
         6     32%    16P      3       19 XXXXXXXXXXXXXXXXXXX
         5     26%    10P      2       15 XXXXXXXXXXXXXXX
         4     21%     5P      2        8 XXXXXXXX
         3     16%     3P      1        6 XXXXXX
         2     11%     1P      1        2 XX
         1      5%     1P      1        2 XX

     ----------

      TEST NUMBER    4      EVALUATION
          MEAN        3.35       STD DEV        1.97      OUT OF:     7
                NUMBER OF STUDENTS COMPLETING SUBTEST    257
       RAW
      SCORE   %AGE   %ILE   STANINE   NO.

         7    100%    96P      9       18 XXXXXXXXXXXXXXXXXX
         6     86%    88P      7       26 XXXXXXXXXXXXXXXXXXXXXXXXXX
         5     71%    76P      6       35 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
         4     57%    61P      6       40 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
         3     43%    47P      5       36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
         2     29%    30P      4       49 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
         1     14%    13P      3       39 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
         0      0%     3P      1       14 XXXXXXXXXXXXXX
```

Table 3(a) cont'd

NO.	SUB-TEST	MEAN	%-AGE	STD. DEV.	NUMBER		DISTRICT QUARTILE	QUARTILE
1	TOTAL	33.42	57%	8.58	257	75TH:	39.7	
						50TH:	33.8	
						25TH:	27.0	
2	KNOWLEDGE	20.00	62%	4.31	264	75TH:	23.1	
						50TH:	20.1	
						25TH:	17.3	
3	APPLICATION	9.88	51%	3.58	264	75TH:	12.4	
						50TH:	10.0	
						25TH:	7.3	
4	EVALUATION	3.35	47%	1.97	257	75TH:	4.9	
						50TH:	3.2	
						25TH:	1.7	

Table 3(b)

Sub-Test Results on English Language Instrument, By Content & By Cognitive Level

---

```
TEST NUMBER    2     LANGUAGE
    MEAN       5.22      STD DEV      1.73     OUT OF:    8
         NUMBER OF STUDENTS COMPLETING SUBTEST   262
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

   8   100%   96P     8      21 XXXXXXXXXXXXXXXXXXXXX
   7    87%   83P     7      45 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6    75%   64P     6      57 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5    62%   42P     5      58 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   4    50%   24P     4      38 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   3    37%   12P     3      21 XXXXXXXXXXXXXXXXXXXXX
   2    25%    5P     2      16 XXXXXXXXXXXXXXXX
   1    12%    1P     1       5 XXXXX
   0     0%    1P     1       1 X

----------

TEST NUMBER    3     WRITING
    MEAN       7.32      STD DEV      2.32     OUT OF:   13
         NUMBER OF STUDENTS COMPLETING SUBTEST   262
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

  12    92%   98P     9      11 XXXXXXXXXXX
  11    85%   94P     8      12 XXXXXXXXXXXX
  10    77%   87P     7      23 XXXXXXXXXXXXXXXXXXXXXXX
   9    69%   76P     6      36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8    62%   61P     6      42 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7    54%   44P     5      43 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6    46%   29P     4      38 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5    38%   17P     3      27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
   4    31%    8P     2      16 XXXXXXXXXXXXXXXX
   3    23%    4P     1       9 XXXXXXXXX
   2    15%    1P     1       3 XXX
   1     8%    1P     1       2 XX

----------
```

Table 3(b) cont'd

```
TEST NUMBER    4     READING
    MEAN       6.79      STD DEV       2.44      OUT OF:   10
         NUMBER OF STUDENTS COMPLETING SUBTEST   250
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

  10   100%   94P     8     29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   9    90%   80P     7     43 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8    80%   61P     6     49 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7    70%   46P     5     27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
   6    60%   34P     4     36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5    50%   23P     4     15 XXXXXXXXXXXXXXX
   4    40%   16P     3     20 XXXXXXXXXXXXXXXXXXXX
   3    30%    9P     2     16 XXXXXXXXXXXXXXXX
   2    20%    4P     2      9 XXXXXXXXX
   1    10%    2P     1      3 XXX
   0     0%    1P     1      3 XXX

----------

TEST NUMBER    5     NUMBER CONCEPTS
    MEAN       9.83      STD DEV       2.34      OUT OF:   14
         NUMBER OF STUDENTS COMPLETING SUBTEST   262
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

  14   100%   99P     9      1 X
  13    93%   94P     8     28 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
  12    86%   81P     7     44 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  11    79%   65P     6     39 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  10    71%   48P     5     46 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   9    64%   32P     4     42 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8    57%   20P     3     21 XXXXXXXXXXXXXXXXXXXXX
   7    50%   13P     3     16 XXXXXXXXXXXXXXXX
   6    43%    7P     2     11 XXXXXXXXXXX
   5    36%    4P     1      8 XXXXXXXX
   4    29%    2P     1      2 XX
   3    21%    1P     1      2 XX
   2    14%    1P     1      1 X
   1     7%    1P     1      1 X

----------
```

Table 3(b) cont'd

```
----------------------------------------------------------------------------------------------------
TEST NUMBER    6     GEOMETRY,MEASUREMENT,GRAPHING
    MEAN       6.85     STD DEV      2.33     OUT OF:   11
         NUMBER OF STUDENTS COMPLETING SUBTEST   262
 RAW
SCORE   %AGE   %ILE   STANINE   NO.

  11    100%    98P      9      10 XXXXXXXXXX
  10     91%    91P      8      29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   9     82%    79P      7      32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8     73%    65P      6      39 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7     64%    52P      5      32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6     55%    36P      4      49 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5     45%    21P      3      33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   4     36%    12P      3      14 XXXXXXXXXXXXXX
   3     27%     7P      2      13 XXXXXXXXXXXXX
   2     18%     3P      1       7 XXXXXXX
   1      9%     1P      1       4 XXXX
```

Table 3(b) cont'd

NO	SUB-TEST	MEAN	%-AGE	STD. DEV.	NUMBER		DISTRICT QUARTILE	QUARTILE
1	TOTAL	36.26	64%	8.65	250	75TH:	43.4	
						50TH:	36.3	
						25TH:	30.0	
2	LANGUAGE	5.22	65%	1.73	262	75TH:	6.6	
						50TH:	5.4	
						25TH:	4.1	
3	WRITING	7.32	56%	2.32	262	75TH:	8.9	
						50TH:	7.4	
						25TH:	5.7	
4	READING	6.79	67%	2.44	250	75TH:	8.7	
						50TH:	7.3	
						25TH:	5.2	
5	NUMBER CONCEPTS	9.83	70%	2.34	262	75TH:	11.6	
						50TH:	10.1	
						25TH:	8.4	
6	GEOMETRY, MEASUREMENT, GRAPHING	6.85	62%	2.33	262	75TH:	8.7	
						50TH:	6.9	
						25TH:	5.3	

Table 3(b) cont'd

```
TEST NUMBER    2      KNOWLEDGE
     MEAN      15.50       STD DEV       4.01      OUT OF:   23
          NUMBER OF STUDENTS COMPLETING SUBTEST    262
 RAW
SCORE   %AGE   %ILE  STANINE  NO

  23    100%    99P     9       3 XXX
  22     96%    98P     9       6 XXXXXX
  21     91%    93P     8      19 XXXXXXXXXXXXXXXXXXX
  20     87%    85P     7      21 XXXXXXXXXXXXXXXXXXXXX
  19     83%    78P     7      19 XXXXXXXXXXXXXXXXXXX
  18     78%    69P     6      28 XXXXXXXXXXXXXXXXXXXXXXXXXXXX
  17     74%    60P     5      18 XXXXXXXXXXXXXXXXXX
  16     70%    51P     5      27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
  15     65%    43P     5      15 XXXXXXXXXXXXXXX
  14     61%    36P     4      24 XXXXXXXXXXXXXXXXXXXXXXXX
  13     57%    28P     4      19 XXXXXXXXXXXXXXXXXXX
  12     52%    21P     3      14 XXXXXXXXXXXXXX
  11     48%    14P     3      23 XXXXXXXXXXXXXXXXXXXXXXX
  10     43%     9P     2       7 XXXXXXX
   9     39%     6P     2       5 XXXXX
   8     35%     4P     2       6 XXXXXX
   7     30%     3P     1       2 XX
   6     26%     2P     1       4 XXXX
   5     22%     1P     1       0
   4     17%     1P     1       2 XX

----------
```

Table 3(b) cont'd

```
--------------------------------------------------------------------------------------------------------------

TEST NUMBER    3     APPLICATION
    MEAN      13.83      STD DEV       4.02      OUT OF:   23
         NUMBER OF STUDENTS COMPLETING SUBTEST    262
 RAW
SCORE   %AGE   %ILE   STANINE   NO.

  22     96%    99P      9        3 XXX
  21     91%    98P      9        3 XXX
  20     87%    96P      9        7 XXXXXXX
  19     83%    93P      8       12 XXXXXXXXXXXX
  18     78%    85P      7       29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  17     74%    74P      6       29 XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  16     70%    65P      6       20 XXXXXXXXXXXXXXXXXXXX
  15     65%    57P      5       20 XXXXXXXXXXXXXXXXXXXX
  14     61%    48P      5       24 XXXXXXXXXXXXXXXXXXXXXXXX
  13     57%    40P      5       19 XXXXXXXXXXXXXXXXXXX
  12     52%    32P      4       22 XXXXXXXXXXXXXXXXXXXXXX
  11     48%    25P      4       16 XXXXXXXXXXXXXXXX
  10     43%    19P      3       18 XXXXXXXXXXXXXXXXXX
   9     39%    13P      3       12 XXXXXXXXXXXX
   8     35%     9P      2       10 XXXXXXXXXX
   7     30%     5P      2        8 XXXXXXXX
   6     26%     3P      1        3 XXX
   5     22%     2P      1        2 XX
   4     17%     2P      1        2 XX
   3     13%     1P      1        2 XX
   2      9%     1P      1        1 X

----------

TEST NUMBER    4     EVALUATION
    MEAN       6.37      STD DEV       2.01      OUT OF:   10
         NUMBER OF STUDENTS COMPLETING SUBTEST    262
 RAW
SCORE   %AGE   %ILE   STANINE   NO.

  10    100%    98P      9        9 XXXXXXXXX
   9     90%    91P      8       30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8     80%    77P      7       41 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7     70%    59P      5       57 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6     60%    40P      4       43 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5     50%    24P      4       37 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   4     40%    13P      3       20 XXXXXXXXXXXXXXXXXXXX
   3     30%     7P      2       14 XXXXXXXXXXXXXX
   2     20%     3P      1        8 XXXXXXXX
   1     10%     1P      1        2 XX
   0      0%     1P      1        1 X
```

Table 3(b) cont'd

NO	SUB-TEST	MEAN	%-AGE	STD. DEV.	NUMBER		DISTRICT QUARTILE	QUARTILE
1	TOTAL	35.70	63%	8.92	262	75TH:	43.0	
						50TH:	35.8	
						25TH:	29.3	
2	KNOWLEDGE	15.50	67%	4.01	262	75TH:	18.7	
						50TH:	15.9	
						25TH:	12.6	
3	APPLICATION	13.83	60%	4.02	262	75TH:	17.1	
						50TH:	14.2	
						25TH:	11.0	
4	EVALUATION	6.37	63%	2.01	262	75TH:	7.9	
						50TH:	6.5	
						25TH:	5.1	

Instrument Reliability:

Instruments of the objectives-based type are difficult to judge according to traditional methods of reliability estimation. Tables 4(a) and 4(b) provide the necessary total and sub-total data upon which these judgements rest.

Traditional tests rely heavily on heterogeneous performance of students (ensured by selecting items for the tests with approximately 50% difficulty and large discrimination indices) to ensure stability in the rank ordering of students. The present instruments, however, are not being used to separate students but to evaluate programmes. This is why they are being referred to throughout this report as "instruments" rather than as "tests".

Other judgements can be made, however, that reflect on this reliability. For example, total scores are being used in the present assessment as a criterion to measure programme success. Thus, each of the sub-tests should contribute to a reliable total schor. The correlations between total and sub-test scores are uniformly high for all the breakdowns in the present assessment (r's range from +.63 to +.91) with the lowest occurring where one would expect: the correlation of the oral sub-test with the total French language scores.

Another, somewhat contradictory, expectation concerns the intercorrelations among sub-tests. If sub-tests are indeed measuring some content (or some cognitive behaviours) that are to some extent unique to that content or behaviour, then the correlations between sub-tests should be moderate. At the very least, they should be lower than those attained between sub-tests and total scores. In fact, this criterion is met by every sub-test in all four breakdowns.

The reliability indices (alpha's on the table) are much higher than one would expect on instruments of this type, and approach those that would be found on more normative instruments. The major reason for this outcome is once again the unusually large variability in the students' responses.

The "I don't know/Je ne sais pas" Responses:

Another result worth examining concerns the use of the "I don't know/Je ne sais pas" response. As indicated earlier, the students were encouraged to use this res-

Table 5

Number & Percentage of "I don't know/Je ne sais pas" Responses Greater than 10% By Content & Cognitive Categories

English Language Instrument:	No. of Items	No. of IDK's >10%	Per-cent
Content:			
Language	8	1	12
Writing	13	0	0
Reading	10	0	0
Number Concepts	14	2	14
Geometry, Measurement & Graphing	11	1	9
Cognitive:			
Knowledge	23	2	9
Application	23	1	4
Evaluation	10	1	10
French Language Instrument:			
Content:			
Lecture	10	0	0
Expression Ecrite	14	2	14
Expression Orale	9	1	11
Etudes Sociales	13	3	23
Etudes Sciences	12	5	42
Cognitive:			
Knowledge	32	4	12
Application	19	5	26
Evaluation	7	2	29

ponse when they felt they had no familiarity with the content being assessed. Table 5 indicates the breakdown of the use of this response by greater than 10% of the students involved in the assessment. (Item by item results can be found by examining the proportions under Column 5 in the item response data.)

In the English Language instrument, three items on the mathematics sections of the assessment were omitted by at least this percentage. No cognitive pattern is evident in these results. In the French Language instrument eleven items meet this criterion, eight of which are in the Etudes Sociales and Etudes Sciences sub-tests. The cognitive pattern is also heavily weighted towards the Application and Evaluation areas. (It should be noted that no Evaluation-type items were generated for any of the Language Arts: French sub-tests, a characteristic which may contribute to the imbalance noted here in this reponse pattern.)

Oral-aural Performance Measures:

Table 6 provides a detailed summary of the frequency distribution of ratings made by Professor Howard. These ratings indicate that the children are much better listeners (receptive language) than they are speakers

Table 6

Frequency Distribution of Ratings For N = 100 Students on Oral-Aural Performances (Median Rating Underlined)

		No. of Students
1. How many questions were asked (en français)aas part of the game?	0-5	43
	6-10	46
	11-15	11
2. Evaluate the quality of the questions.		
- a single form with few variations		34
- some variation in form		29
- many elaborated questions		18
- fluent style, at ease with language		11
No response		8
3. Evaluate the student's listening comprehension.		
- required clarification; often misunderstood		8
- required some clarification for understanding		14
- understood most responses to questions		17
- understood all responses to questions		59
No response		2

Table 6 cont'd

	No. of Students
4. Evaluate the student in terms of fluency.	
- no facility in the language	10
- beginning to use the language	36
- uses language to accomplish simple tasks	25
- easily adapts to language use	24
No Response	5
5. Evaluate the student in terms of Pronunciation/Enunciation.	
- unclear words and poor intonation	11
- words mostly clear, acceptable intonation	20
- words quite clear, intonation good	44
- clear precise natural accent	20
No Response	5

(productive language). There are also about 10% of the students enrolled in the programme who are without very much facility. These students could be those who transferred into the 50-50 programme from unilingual or largely unilingual programmes elsewhere. Achievement in the programme by length of time will be discussed later in this report.

As with the written sub-tests, the ratings can also be correlated with a total score and with each other. Table 7 provides the intercorrelations among the ratings. As with the written tests again, these show moderate to high intercorrelations among sub-tests, and uniformly high correlations of sub-tests to total. The strength of these inter-correlations suggests that a single linguistic factor probably underlies the achievement of the students in this situation.

Various correlations of ratings with personal characteristics of the student sample indicated the following relationships with oral-aural performance:

1. No differences between the sexes were found on any of the ratings, including the total score;
2. A significant but modest relationship exists between the schools' rated socio-

Table 7

Intercorrelations of Oral-Aural Performance Ratings of N = 100 Students

	Total	No. of Questions	Question Quality	Listening	Fluency
No. of Questions	.76				
Question Quality	.90	.71			
Listening	.87	.59	.68		
Fluency	.93	.66	.81	.78	
Pronunciation/ Enunciation	.88	.53	.74	.73	.80

economic standing and the students' performance;

3. Some correlation was found between the language spoken before coming to school and performance on the oral-aural scales;

and

4. A moderate relationship exists between number of years in the 50-50 programme and scores on the performance scales.

It should be noted that these statements represent conclusions over 100 children and should not be interpreted as applying to individuals within the system. A complete correlation matrix for all the variables examined in this part of the assessment is provided in Appendix H.

On Table 6, the median rating has been underlined as a guide to the average achievement exhibited in the board on these scales. A typical 50-50 programme student, therefore, will ask between 6 and 10 questions in a game situation with some variation in the form of these questions; will understand all the responses given to him by the leader; and will enunciate in the language quite clearly. At this level of development, the typical child is using language to accomplish simple tasks such as those required by the game.

Interpretation Panel Results:

The purpose of the interpretation panel was to arrive at some standards of performance, the expectations the community of educators and the public have for the achievement of the students. After individual panelists evaluated the students' actual performance with their own expectations, four small groups of three individuals were formed to discuss their individual assessments. Each group was charged with arriving at a consensus rating within the group, first for items and then for content domains.

When each group completed this task, the large group reassembled and attempted to reach a consensus of the whole assembly. The results of both the small group meetings and the large group meeting are reported in Table 8.

The panelists did not rate any of the content domains as Strong or Very Satisfactory. The domains of Reading and Language in the Language Arts: English programme; Number Concepts, in the Mathematics programme; and Lecture, in the Language Arts: French programme were

Table 8

Interpretation Panel Large Group & Small Group Ratings of Content of English Language & French Language Instruments

	Small Group Ratings				
Language Arts: English	1	2	3	4	Overall
Domain #1: Language	4	3	3	3	3
Domain #2: Writing	4	4	4	4	4
Domain #3: Reading	3	3	3	3	3
Mathematics					
Domain #1: Number Concepts	4	2	3	3	3
Domain #2: Geometry, Measurement, Graphing	3	3+	4	4	4
French Language Arts					
Domain #1: Lecture	3	3+	2	3	3
Domain #2: Expression Ecrite	4	4	5	3	4
Domain #3: Expression Orale	5	5	5	4	5
Environmental Studies					
Domain #1: Etudes Sociales	5	4	4	4	4
Domain #2: Etudes Sciences	5	3	4	4	5

rated as Satisfactory. Writing (Language Arts: English) and Geometry, Measurement, Graphing along with Expression Ecrite and Etudes Sociales were rated as Marginal. Achievement in the Expression Orale domain and Etudes Sciences was rated as Weak.

It should be noted in considering these evaluations that the emphasis in the process is not to discuss why some events may or may not occur. The purpose of the activity is to establish expectations for the programme, and to judge how effectively these expectations are being met by the children.

2. How do these levels compare with the levels of achievement of pupils in unilingual programmes elsewhere?

Systematic comparisons to the achievement levels in other programmes was only possible with the English language instruments. Some comparisons with translated items, however, are reported for items on the French language instrument. Other jurisdictions, when approached with the possibility of providing comparative data, indicated that the French language instruments developed for use with the Ottawa R.C.S.S.B. would be beyond the scope of pupils in their boards.

Cooperating Board:

The entire English language instrument was given in a local area board to a sample of 224 pupils. The attempt to make this sample completely random foundered due to the timing of the assessment and the ability of principals in the cooperating board to refuse participation. Although the results are probably representative of the cooperating board's total population of Grade 4 pupils, the drop-off in the sample suggests that some modesty be attached to any comparisons, especially at the item level. The obtained sample is also somewhat unusual in that some

Immersion students were also included at the insistence of the cooperating board. These students are included in the item statistics, but have been subtracted in the total score and sub-test analysis. This "net" sample more nearly represents the unilingual programme comparison asked for in the question.

Other Jurisdictions:

Many of the items found to be highly related to the Ottawa R.C.S.S.B.'s programme were located in an item bank developed in British Columbia. These items were used in province-wide assessments in that province during 1980 and 1981 on the same age levels as those represented in the present study.

The item-by-item comparisons are presented here as Table 9. Some of the items on the French language examination were selected from the B.C. bank and translated for this assessment. Translated items should not be expected to operate the same way as they did in their original language. The results are reported here, however, for illustrative purposes, and because the information these comparisons contain is supported by other data collected in the assessment.

Table 9

Comparison of Item Results by Jurisdiction
Individual Item Ratings

English Form Items	ORCSSB Obtained P-Value	Other Local Board*	British Columbia
Sub-Test 1: Language			
Question 1.	80	91	
2.	81	84	86
3.	82	85	81
4.	55	64	
5.	52	53	71
6.	36	39	
7.	63	64	
8.	77	89	
Sub-Test 2: Writing			
Question 9.	14	19	
10.	61	61	81
11.	58	67	77
12.	58	67	71
13.	67	69	77
14.	76	73	
15.	82	81	
16.	76	83	
17.	85	89	
18.	33	35	
19.	27	34	
20.	62	63	
21.	40	64	76
English Form Items cont'd	**ORCSSB Obtained P-Value**	**Other Local Board**	**British Columbia**
Sub-Test 3: Reading			
Question 22.	86	87	92
23.	86	87	89
24.	59	61	68
25.	62	61	
26.	69	82	77
27.	49	52	
28.	65	75	74
29.	73	83	86
30.	68	81	80
31.	62	75	87
Sub-Test 4: Mathematics			
Question 32.	76	81	88
33.	71	76	89
34.	88	93	
35.	84	89	
36.	90	94	93
37.	75	87	
38.	62	66	
39.	89	94	
40.	62	69	79
41.	29	34	
42.	10	09	
43.	83	85	89

* Results based on 180 students in a unilingual programme and 41 students in an immersion programme

Table 9 cont'd

English Form Items cont'd	ORCSSB Obtained P-Value	Other Local Board	British Columbia	French Form Items	Obtained P-Value	Other Info.	Rating
Mathematics cont'd				Language Arts: French & Environmental Studies			
Question 44.	88	85	87				
45.	78	71					
Sub-Test 5: Geometry, Measurement, Graphing				Sub-Test 1: Lecture			
				Question 1.	63		
				2.	89		
Question 46.	53	67	51	3.	54		
47.	82	81	84	4.	60		
48.	52	63	53	5.	56		
49.	79	84	90	6.	81		
50.	58	54	50	7.	85		
51.	56	50	52	44.	72		
52.	79	75	87	45.	83		
53.	66	63	63	46.	82		
54.	64	74	76				
55.	42	43	58	Sub-Test 2: Expression Ecrite			
56.	64	71	84				
				Question 8.	72		
				9.	56		
				10.	74		
				11.	35		
				12.	67		
				13.	43		
				14.	88		
				15.	57		

Table 9 cont'd

French Form Items cont'd	Obtained P-Value	Other Info.	Rating
Expression Ecrite cont'd			
Question 16.	92		
17.	53		
18.	52		
19.	28		
20.	34		
21.	61		
Subtest 3: Etudes Sociales		B.C. Items Translated	
Question 22.	95		
23.	51	54	
24.	43	54	
25.	72		
26.	25	49	
27.	66	75	
28.	68	72	
29.	51	71	
30.	47	71	
31.	63	77	
32.	49	54	
33.	50	83	
34.	48	78	

French Form Items cont'd	Obtained P-Value	Other Info.	
Sub-Test 4: Expression Orale			
Question 35.	98		
36.	57		
37.	59		
38.	43		
39.	46		
40.	57		
41.	46		
42.	49		
43.	60		
Sub-Test 5: Sciences		B.C.Items Translated	
Question 47.	87	74	
48.	73	86	
49.	30		
50.	23		
51.	37	59	
52.	19	45	
53.	43	63	
54.	54	80	
55.	60		
56.	45	73	
57.	29	64	
58.	52	90	

During the pilot phase of the assessment, four items were evaluated in both English and French forms, two each from the Etudes Sociales and Etudes Sciences sections. The question arose: For students enrolled in a 50-50 programme, would the questions on an assessment belonging to subjects other than Language Arts: French be better answered in the first language? Table 10 provides the data upon which a decision was made to evaluate in the language of instruction.

Table 10

Pilot Comparison of Items in Social Studies & Science in Two Languages

Form	Number Responding	Subject	p-value French	p-value English
11	55	Etudes Sociales	44	28
12	56	Etudes Sociales	36	53
11	55	Etudes Sciences	14	10
12	56	Etudes Sciences	28	19

Total Score Comparisons:

The total score results for the cooperating board is reproduced here as Table 11 and can be compared directly with that produced earlier in Table 2 for the Ottawa

Table 11

Total & Sub-Test Frequency Distributions for Cooperating Board on English Language Instrument

```
TEST NUMBER    1     TOTAL
    MEAN      38.74      STD DEV       8.18     OUT OF:  56
         NUMBER OF STUDENTS COMPLETING SUBTEST    221
 RAW
SCORE  %AGE  %ILE  STANINE  NO

  53    95%   99P     9      3 XXX
  52    93%   98P     9      2 XX
  51    91%   97P     9      4 XXXX
  50    89%   96P     8      1 X
  49    87%   94P     8      6 XXXXXX
  48    86%   91P     8      7 XXXXXXX
  47    84%   88P     7      8 XXXXXXXX
  46    82%   81P     7     20 XXXXXXXXXXXXXXXXXXXX
  45    80%   75P     6     10 XXXXXXXXXX
  44    79%   70P     6     12 XXXXXXXXXXXX
  43    77%   64P     6     14 XXXXXXXXXXXXXX
  42    75%   58P     5     13 XXXXXXXXXXXXX
  41    73%   53P     5      8 XXXXXXXX
  40    71%   50P     5      7 XXXXXXX
  39    70%   44P     5     17 XXXXXXXXXXXXXXXXX
  38    68%   39P     4      5 XXXXX
  37    66%   36P     4     10 XXXXXXXXXX
  36    64%   32P     4      6 XXXXXX
  35    62%   30P     4      5 XXXXX
  34    61%   27P     4      7 XXXXXXX
  33    59%   24P     4      7 XXXXXXX
  32    57%   21P     3      5 XXXXX
  31    55%   19P     3      6 XXXXXX
  30    54%   15P     3      8 XXXXXXXX
  29    52%   13P     3      2 XX
  28    50%   12P     3      4 XXXX
  27    48%    9P     2     10 XXXXXXXXXX
  26    46%    6P     2      0
  25    45%    6P     2      0
  24    43%    6P     2      2 XX
  23    41%    5P     2      4 XXXX
  22    39%    4P     1      0
  21    37%    3P     1      2 XX
  20    36%    2P     1      1 X
  19    34%    2P     1      0
  18    32%    2P     1      1 X
  17    30%    2P     1      0
  16    29%    2P     1      0
  15    27%    2P     1      1 X
  14    25%    1P     1      2 XX
  13    23%    1P     1      0
  12    21%    1P     1      1 X
```

Table 11 cont'd

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------------------------------------------------------------------------------------------
     ----------

     TEST NUMBER    2      LANGUAGE
         MEAN        5.69      STD DEV       1.70      OUT OF:    8
              NUMBER OF STUDENTS COMPLETING SUBTEST    224
      RAW
     SCORE  %AGE  %ILE  STANINE  NO

        8   100%   93P     8     32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        7    87%   75P     6     47 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        6    75%   52P     5     58 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        5    62%   31P     4     33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        4    50%   17P     3     30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        3    37%    8P     2     14 XXXXXXXXXXXXXX
        2    25%    4P     1      4 XXXX
        1    12%    1P     1      6 XXXXXX

     ----------

     TEST NUMBER    3      WRITING
         MEAN        8.01      STD DEV       2.53      OUT OF:   13
              NUMBER OF STUDENTS COMPLETING SUBTEST    224
      RAW
     SCORE  %AGE  %ILE  STANINE  NO

       13   100%   99P     9      4 XXXX
       12    92%   96P     9      8 XXXXXXXX
       11    85%   89P     8     25 XXXXXXXXXXXXXXXXXXXXXXXXX
       10    77%   76P     6     33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        9    69%   62P     6     32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        8    62%   46P     5     36 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
        7    54%   32P     4     27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
        6    46%   21P     3     25 XXXXXXXXXXXXXXXXXXXXXXXXX
        5    38%   12P     3     13 XXXXXXXXXXXXX
        4    31%    7P     2      9 XXXXXXXXX
        3    23%    4P     2      5 XXXXX
        2    15%    2P     1      4 XXXX
        1     8%    1P     1      2 XX
        0     0%    1P     1      1 X

     ----------
```

Table 11 cont'd

```
------------------------------------------------------------------------------------------------------

TEST NUMBER    4      READING
    MEAN       7.45      STD DEV       2.16      OUT OF:  10
         NUMBER OF STUDENTS COMPLETING SUBTEST    222
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

  10   100%   93P     8      32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   9    90%   74P     6      53 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8    80%   50P     5      50 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7    70%   34P     4      24 XXXXXXXXXXXXXXXXXXXXXXXX
   6    60%   23P     3      26 XXXXXXXXXXXXXXXXXXXXXXXXXX
   5    50%   14P     3      13 XXXXXXXXXXXXX
   4    40%    9P     2       7 XXXXXXX
   3    30%    6P     2       9 XXXXXXXXX
   2    20%    3P     1       4 XXXX
   1    10%    1P     1       4 XXXX

-----------

TEST NUMBER    5      NUMBER CONCEPTS
    MEAN      10.33      STD DEV       2.08      OUT OF:  14
         NUMBER OF STUDENTS COMPLETING SUBTEST    224
 RAW
SCORE  %AGE  %ILE  STANINE  NO.

  14   100%   99P     9       1 X
  13    93%   94P     8      26 XXXXXXXXXXXXXXXXXXXXXXXXXX
  12    86%   79P     7      42 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  11    79%   56P     5      57 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  10    71%   37P     4      32 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   9    64%   23P     3      30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   8    57%   12P     3      17 XXXXXXXXXXXXXXXXX
   7    50%    7P     2       6 XXXXXX
   6    43%    5P     2       5 XXXXX
   5    36%    3P     1       4 XXXX
   4    29%    1P     1       2 XX
   3    21%    1P     1       1 X
   2    14%    1P     1       1 X

-----------
```

Table 11 cont'd

```
TEST NUMBER    6      GEOMETRY,MEASUREMENT,GRAPHING
    MEAN       7.21      STD DEV       2.29      OUT OF:   11
          NUMBER OF STUDENTS COMPLETING SUBTEST    223
 RAW
SCORE  %AGE   %ILE  STANINE  NO

  11   100%   97P      9      15 XXXXXXXXXXXXXXX
  10    91%   87P      7      27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
   9    82%   75P      6      27 XXXXXXXXXXXXXXXXXXXXXXXXXXX
   8    73%   61P      6      34 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   7    64%   45P      5      39 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   6    55%   30P      4      30 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   5    45%   18P      3      22 XXXXXXXXXXXXXXXXXXXXXX
   4    36%   10P      2      14 XXXXXXXXXXXXXX
   3    27%    4P      2      11 XXXXXXXXXXX
   2    18%    1P      1       2 XX
   1     9%    1P      1       1 X
   0     0%    1P      1       1 X
```

Table 11 cont'd

NO	SUB-TEST	MEAN	%-AGE	STD. DEV.	NUMBER		DISTRICT QUARTILE	QUARTILE
1	TOTAL	38.74	69%	8.18	221	75TH:	45.0	
						50TH:	40.0	
						25TH:	33.3	
2	LANGUAGE	5.69	71%	1.70	224	75TH:	7.0	
						50TH:	5.9	
						25TH:	4.6	
3	WRITING	8.01	61%	2.53	224	75TH:	9.9	
						50TH:	8.3	
						25TH:	6.4	
4	READING	7.45	74%	2.16	222	75TH:	9.1	
						50TH:	8.0	
						25TH:	6.2	
5	NUMBER CONCEPTS	10.33	73%	2.08	224	75TH:	11.8	
						50TH:	10.7	
						25TH:	9.1	
6	GEOMETRY, MEASUREMENT, GRAPHING	7.21	65%	2.29	223	75TH:	9.0	
						50TH:	7.3	
						25TH:	5.6	

Table 11 cont'd

```
-------------------------------------------------------------------------------------

TEST NUMBER    2      KNOWLEDGE
    MEAN       16.51       STD DEV       3.62     OUT OF:   23
          NUMBER OF STUDENTS COMPLETING SUBTEST    224
 RAW
SCORE   %AGE   %ILE  STANINE  NO

   23   100%    99P      9      2 XX
   22    96%    98P      9      6 XXXXXX
   21    91%    94P      8     13 XXXXXXXXXXXXX
   20    87%    83P      7     33 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   19    83%    70P      6     25 XXXXXXXXXXXXXXXXXXXXXXXXX
   18    78%    60P      5     23 XXXXXXXXXXXXXXXXXXXXXXX
   17    74%    50P      5     22 XXXXXXXXXXXXXXXXXXXXXX
   16    70%    39P      4     24 XXXXXXXXXXXXXXXXXXXXXXXX
   15    65%    30P      4     17 XXXXXXXXXXXXXXXXX
   14    61%    23P      3     16 XXXXXXXXXXXXXXXX
   13    57%    17P      3     10 XXXXXXXXXX
   12    52%    12P      3     12 XXXXXXXXXXXX
   11    48%     8P      2      5 XXXXX
   10    43%     6P      2      4 XXXX
    9    39%     4P      2      4 XXXX
    8    35%     3P      1      4 XXXX
    7    30%     1P      1      2 XX
    6    26%     1P      1     0
    5    22%     1P      1      2 XX

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```

Table 11 cont'd

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TEST NUMBER    3     APPLICATION
    MEAN      15.42      STD DEV       3.74    OUT OF:   23
          NUMBER OF STUDENTS COMPLETING SUBTEST    224
  RAW
 SCORE   %AGE   %ILE  STANINE  NO.

   22     96%    99P     9       3 XXX
   21     91%    97P     9       9 XXXXXXXXX
   20     87%    91P     8      15 XXXXXXXXXXXXXXX
   19     83%    84P     7      19 XXXXXXXXXXXXXXXXXXX
   18     78%    74P     6      25 XXXXXXXXXXXXXXXXXXXXXXXXX
   17     74%    61P     6      34 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   16     70%    48P     5      24 XXXXXXXXXXXXXXXXXXXXXXXX
   15     65%    39P     4      17 XXXXXXXXXXXXXXXXX
   14     61%    31P     4      17 XXXXXXXXXXXXXXXXX
   13     57%    25P     4      12 XXXXXXXXXXXX
   12     52%    19P     3      12 XXXXXXXXXXXX
   11     48%    15P     3       9 XXXXXXXXX
   10     43%    11P     2       8 XXXXXXXX
    9     39%     7P     2       8 XXXXXXXX
    8     35%     4P     2       4 XXXX
    7     30%     2P     1       5 XXXXX
    6     26%     1P     1       0
    5     22%     1P     1       2 XX
    4     17%     1P     1       1 X
----------

TEST NUMBER    4     EVALUATION
    MEAN       6.66      STD DEV       2.11     OUT OF:   10
          NUMBER OF STUDENTS COMPLETING SUBTEST    224
  RAW
 SCORE   %AGE   %ILE  STANINE  NO.

   10    100%    98P     9      11 XXXXXXXXXXX
    9     90%    88P     7      31 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
    8     80%    71P     6      46 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
    7     70%    50P     5      46 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
    6     60%    32P     4      35 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
    5     50%    19P     3      23 XXXXXXXXXXXXXXXXXXXXXXX
    4     40%    12P     3      11 XXXXXXXXXXX
    3     30%     8P     2       8 XXXXXXXX
    2     20%     4P     2       7 XXXXXXX
    1     10%     2P     1       5 XXXXX
    0      0%     1P     1       1 X
```

Table 11 cont'd

NO	SUB-TEST	MEAN	%-AGE	STD. DEV	NUMBER		DISTRICT QUARTILE	QUARTILE
1	TOTAL	38.58	68%	8.27	224	75TH:	45.0	
						50TH:	40.0	
						25TH:	33.3	
2	KNOWLEDGE	16.51	71%	3.62	224	75TH:	19.4	
						50TH:	17.0	
						25TH:	14.3	
3	APPLICATION	15.42	67%	3.74	224	75TH:	18.1	
						50TH:	16.2	
						25TH:	13.0	
4	EVALUATION	6.66	66%	2.11	224	75TH:	8.2	
						50TH:	7.0	
						25TH:	5.5	

R.C.S.S.B. As noted, these results included 41 students enrolled in an "immersion" programme. When these students' scores are removed, the revised mean and standard deviation for this board become: Mean score = 37.59 and S.D. = 7.81. (Obviously, the immersion students tended to raise the average achievement in the cooperating district.)

A comparison of the total achievement for the Ottawa R.C.S.S.B. and the revised total achievement of the cooperating board on the English language instrument. reveals no significant differences ($t = 1.67$, $p < .05$). On specific sub-tests, however, some differences in favour of the cooperating board are noted (see Table 12).

Sub-Test Comparison:

Table 12 outlines the means and standard deviations as well as the statistical test results. The t-test helps to determine the degree to which differences observed are likely to have occurred by chance. This "null hypothesis" would fail to be rejected in all but two of the comparisons noted.

Table 12

Comparison of O.R.C.S.S. Board & Cooperating Board (with Immersion Students Removed)

Test Description	Cooperating Board		Ottawa R.C. S.S. Board		t-test for Board	
	Mean	S.D.	Mean	S.D.	Significance ($p < .05$)	
Content						
Language	5.47	1.83	5.22	1.73	1.45	N.S.
Writing	7.69	2.78	7.32	2.32	1.54	N.S.
Reading	7.26	2.40	6.79	2.44	1.99	SIG
Number Concepts	10.22	2.19	9.83	2.34	1.84	N.S.
Geometry, Measurement, Graphing	6.87	2.43	6.85	2.33	.14	N.S.
Cognitive						
Knowledge	16.01	3.93	15.50	4.01	1.48	N.S.
Application	14.91	4.18	13.83	4.02	2.72	SIG
Evaluation	6.50	2.26	6.37	2.01	.67	N.S.
TOTAL SCORE	37.59	7.81	36.26	8.65	1.67	N.S.

The most dramatic difference in sub-test scores occurs in the cognitive category of Application, although a significant difference in the Reading sub-test was also noted. It should be remembered in comparing these results that the cooperating board agreed to administer instruments built around the Ottawa R.C.S.S. Board's curriculum. One of the most plausible explanations for the significant differences in Reading and in Application questions would be that the cooperating Board's curriculum emphasizes this subject and these behaviours more than is currently done in the Ottawa R.C.S.S.B.'s programme.

Comparisons with B.C. Results:

This conclusion about differences in programmes is reinforced by the item results from B.C. On those items where large differences exist (the only ones where differences should be considered reliable) the tendency is to classify these items as "Application". For example, large differences were found in the students' ability to read a recipe, to read and comprehend the meaning of idiomatic statements, to derive meanings from context clues, and to do word problems in mathematics. Large differences were also found in the translated items, and these differences also reflected the Application domain: the ability to read and interpret maps and graphs showed large differences in favour of the B.C. population as did the ability to analyze the workings in a scientific experiment.

3. Has the change from a 50-50 to an extended L_2 programme had a significant effect on achievement for students presently in Grades 6 and 7?

The relevant comparison needed to answer this question is the cohort group against itself on some common measure. To what extent has achievement for the group of students who are no longer in the 50-50 program changed? The only data available to make this comparison were the results on the Canadian Tests of Basic Skills administered both last year and this to some of the Grade 6 students in the board. Table 13 summarizes the achievement levels of the samples making up this comparison. (It should be noted that this achievement battery measures objectives that are generally conceded to be important for students to learn--basic skills--but it is also true that many of the items may never have been part of any group's actual instruction. As a general guide, therefore, these tests are useful. As diagnostic or formative evaluations, however, they are not very appropriate.)

Table 13

A Comparison of Achievement on C.T.B.S. for Random Samples of Grade Five Students (1980-81) & Grade Six Students (1981-82)

Sub-Test Title	Mean (in percentiles)	% > 1 S.D. Below Mean	Mean (in percentiles)	% > 1 S.D. Below Mean
Vocabulary	58	11	60	8
Reading Comprehension	50	13	47	17
Spelling	54	13	58	8
Capitalization	47	16	49	14
Punctuation	56	13	54	13
Usage	54	14	56	9
Mathematics Concepts	46	20	46	25
Mathematics Problem Solving	46	20	46	21
	N = 200		N = 208-215	

It is clear from Table 13 that very few differences exist, and those that do, distribute themselves more or less evenly between the two years. The second column in the table indicates the number of students in the sample who received scores lower than one standard deviation below the mean. In a normally distributed pattern (the one that is used for norming this battery of tests), approximately 16% of the norm group will fall into this category. The data from the testing programme in Ottawa R.C.S.S. Board suggest that this expected figure is being exceeded only in the mathematics sub-test categories.

One note of caution: the use of "grade equivalent" scores, and numbers of students "below grade level" should be avoided in discussions of standardized test scores. These values tend to take on absolute meaning ("Twenty per cent of our children are reading below the Grade 5 level") whereas the truth is that these scores are relative ranks in the same way that percentiles or stanines are relative. It would be extremely useful in future to avoid these derived scores in all reports because of the tendency among many educators to treat them in an absolute fashion. It is much more significant to detect how many students fall below (for remedial attention) and above (for enrichment purposes) some relative mark such as a standard deviation, relating that percentage to the expected value derived from a normal distribution.

The information obtained from the C.T.B.S., therefore, suggests that no major change in achievement on those skills measured by this test has been noted thus far. A more sensitive set of measures--one developed from the particular objectives of the local programmes--might indicate some development in these areas but such information is not presently available.

4. To what extent is the Ottawa R.C.S.S.B.'s bilingual programme compatible with the philosophy, aims, objectives, and methodology outlined in Ministry of Education documents?

All boards operate their programmes under the general direction of the Ministry of Education. The Ministry produces guidelines and other documents which direct the overall educational progress in the province. Of most relevance to the present programme are the policy circulars: P1J1: The Formative Years (available in both English and French versions).

A first step in approaching the problem outlined above was to identify what the specific objectives of the Ottawa R.C.S.S.B.'s programme were. This proved to be quite a task. The final list (which should prove quite helpful to the board in its future programming) was elicited from board-produced curriculum materials, policy statements, and other documents that governed the operation of the programme.

Once this list was produced, it was compared in sum and in detail to that outlined in the Ministry documents through a process called content analysis. Congruencies and discrepancies were located in this fashion. As much of the Ministry's directive concerns classroom operations and environments, a small sample of 13 classrooms was also visited and compared to a list of desirable features adapted from a scheme developed for investigating P1J1 implementation in another research project (Frontenac, Lennox and Addington R.C.S.S.B., (1978).

A caveat in the comparisons should be noted. Adequately worded objectives were not available in all subject areas. The evaluators, then, derived the Language Arts: English objectives from the curriculum materials used in the schools, and re-organized those in Social Studies and Science for comparison purposes. Point-form objectives were provided in Language Arts: French and Mathematics which the evaluators also re-grouped to enhance comparisons to those listed in Circular P1J1. Although objectives in Music, Visual Arts, Physical Education and Health were not tested formally in this project, these objectives were not readily apparent from the programme documents, therefore, the evaluators used the materials themselves as a basis for matching to the circular's statements.

In addition, P1J1: The Formative Years does not contain a list of objectives for second language programmes. The Ministry booklet Teaching and Learning French as a Second Language deals only with major goals and with the funding available for the various levels of implementation of a second language programme. It does not provide a list of specific objectives but indicates instead that the programme should be "based upon a large degree of flexibility as it applies to local school boards."

Appendix I provides a listing of all the relevant objectives outlined in P1J1: The Formative Years. Beside each objective, a rating of the degree of match found with the Ottawa R.C.S.S.B.'s programme is provided. A summary of the results is provided in Table 14 for both the Primary Division objectives alone and those shared with Primary and Junior Division. As can be readily determined, the degree of overlap is not large except in Arithmetic and Writing and, to some lesser degree, in the Arts.

Instructional Components:
Many of the recommendations made in the Ministry's policy document concern classroom organization and teaching and learning styles. The document suggests that learning be individualized as much as possible; that learning centres be included in primary classrooms; that manipulative materials be readily available and so on. Appendix J provides a summary of the results of a survey of 13 classrooms within the primary division of the board, detailing the degree to which certain behavioural evidence of P1J1 implementation in these instructional areas could be observed. The picture that emerges from the data collected (which, because of the small sample, is only suggestive and not confirmatory) is of primary classrooms that depend heavily on teacher-led lessons, of children working most often in the large-group setting, and doing seat-work in work-

Table 14

Summary of Matches Between O.R.C.S.S. Board & P1J1 Objectives

Primary Division

Area	Number of Objectives	Number of Matches	Number Partially Matched
1. Arithmetic	6	5	-
2. Measurement	5	1	2
3. Geometry	8	1	4
4. Listening	8	1	-
5. Speaking	5	-	1
6. Reading (learning to read)	5	1	2
7. Reading (appreciation)	5	1	1
8. Reading (independently)	5	-	-
9. Writing	11	8	1

Table 14 cont'd

Primary & Junior Divisions:

Area	Number of Objectives	Number Matched	Number Partially Matched
1. Perception & Expression	8	2	2
2. Drama	4	-	-
3. Music	7	3	3
4. Visual Arts	4	1	2
5. Physical Education	5	2	2
6. Health	6	3	2
7. Values (Materials not provided)			
8. Decision-Making	5	2	-
9. The Individual & Society (materials not complete)			
10. Science & Geography	4	1	-
11. Canadian Studies	5	1	1

books and dittoes provided by the teacher. Few of the classrooms visited had learning centres, peer groups, displays of children's work, or a variety of 2- and 3-dimensional resources.

5. If significant differences in expectations & achievement prevail, are there aspects of the bilingual programme that can account for these differences?

There are two classes of factors that can affect the achievement of students in a programme. One class of factors is non-manipulable and generally accounts for large amounts of the differences among students. Such things as differences in aptitude, socio-economic status, home background, entry dates into the programme are examples of such factors. While it is often important to monitor such variables, it is seldom useful to spend much time discussing them in programme evaluations. First of all, it is generally difficult (and impossible in most instances) to do anything to alter them. Secondly, they often become the focus of discussion, the cause rather than the correlate of low achievement, that eliminates more fruitful debate about factors that can be addressed.

This other, smaller group of factors is more interesting precisely because it is manipulable. Such things as time allotments, school and classroom organization, and availability of materials are examples of this second group. In this project, discussions were held with board personnel about which members of this class of variables might be most useful to explore in a correlational way during the conduct of this study. While certain suggestions were rejected as too difficult or too ambiguous to measure, given the budget and time constraints, the final list of variables reflects the suggestions of the educators as well as the evaluators concerning what factors may be related to achievement in the 50-50 programme. Information gained through student and teacher questionnaires, through interviews and judgements about the data constituted the information needed for this part of the assessment. Where possible, with the student questions for example, this information was correlated statistically with achievement.

Student Background:

Table 15 displays the descriptive information obtained from this instrument categorized by those who answered the English language instrument and those who answered the French language instrument. As would be expected

Table 15

Frequency of Distribution
Student Background Question Responses
By English Language & French Language Instruments

	English Instrument		French Instrument	
	#	%	#	%
1. How many years (including this one) have you attended this school?				
(a) This is my first year here	37	14.2	20	7.6
(b) Two years	35	13.5	46	17.4
(c) Three years	33	12.7	31	11.7
(d) Four years	24	9.2	29	11.0
(e) More than four years	130	50.0	137	51.9
2. If you have attended other schools, where were they?				
(a) I have not attended other schools	113	43.4	119	45.1
(b) In Ottawa R.C. Separate Board: 50-50 Programme	60	23.1	64	24.2
(c) In Ottawa R.C. Separate Board: NOT in 50-50 programme	20	7.7	23	8.7
(d) Elsewhere in Ontario	35	13.5	33	12.5
(e) Outside Ontario	27	10.4	24	9.1
(f) Omits	5	1.9	1	.4
3. Was English the language usually spoken in your home?				
(a) Yes	177	68.1	201	76.1
(b) No	75	28.8	63	23.9
(c) Omits	8	3.1		
4. Was English the language you spoke most often when you started school?				
(a) Yes	192	73.8	223	84.5
(b) No	67	25.8	40	15.2
(c) Omits	1	.4	1	.4
5. Was French the language you spoke most often when you started school?				
(a) Yes	50	19.2	29	11.0
(b) No	202	77.7	229	86.7
(c) Omits	8	3.1	6	2.3

given the random assignment of instruments, the two breakdowns are roughly similar. A surprising number of respondents to the English booklet indicated that this was their first year in their present school. About half of these students, however, had been participants in the 50-50 programme in other schools in the board. Another interesting feature of the information is the report that a large proportion indicated that English (or French) was the language spoken most often before school. Few children (6 per cent) indicate that neither English nor French was spoken by them before they attended school. Two factors may account for this proportion: one, the children do not remember which language they spoke before entering school; or two, they remember that they spoke English (or French) in addition to another, third language.

Student Background Compared to Achievement:

A series of cross-tabulations was performed to link the student background answers to their achievement on the instrument. (The computer output for these analyses is too bulky to be included in the report; it has been submitted separately to the board.)

Certain conclusions about these relationships apply to both forms of the achievement instruments. For example, a correlation of +.21 between "number of years in the programme in this school" and the English language total score was linked to a correlation of +.22 between the same variable and total score on the French language instrument. In other words, a weak but significant correlation was found on both instruments for the "number of years" students had participated in the 50-50 programme in one school. Such a relationship is to be expected, especially for students transferring into the programme from unilingual programmes elsewhere. (All correlations reported in this section are eta's and significance was set a $p < .05$ level).

This relationship sustains itself, however, only for the sub-tests in the French language booklet. Consequently, the effect is more noticeable and consistent in those specific subjects taught in the French language than it is in the specific subjects taught in English. Again, this conclusion is what would be predicted.

The effect of language spoken at home and prior to school attendance is significant (eta's ranging from

+.15 to -.25) for those answering the English language booklet. Obviously, those who spoke English before coming to school do better than those who did not. The effect, however, is not very large. In contrast, those who answered the French language booklet show no such effect (eta's range from +.02 to +.04). Again, this effect is expected except perhaps for those students who reported speaking French before attending school. The programme obviously manages, over the years and because it is directed at non-French-speaking clients, to override any facilitative effects of access to the French language prior to beginning school.

Socio-Economic Status:

A board-developed rating of SES by school was provided to the evaluators and used as a correlate along with the student background questionnaire data. As is typically found in other studies, SES correlates significantly with achievement. In the present case, however, this correlation was only found systematically on the English language instrument and sub-tests. The correlations were all significant (Pearson's r = +.28) for the total scores and sub-tests on the English instrument, and significant (r = +.23) for the total score and Etudes Sociales and Etudes Sciences sub-tests on the French language instrument (r's of +.28 and +.17). There was no significant effect, however, for this variable on the Orale, (r = +.13), Ecrite (r = +.02) and Lecture (r = +.04) sub-tests. These values suggest that the work in Language Arts: French is defined almost exclusively as "school work" and is not being affected, positively or negatively, by socio-economic factors outside the classroom.

Teacher Questionnaires:

Teachers whose classes participated in the assessment were asked to complete questions on resources available to them for instruction, allotments of time to various subjects, and familiarity with the class's other teacher. The data are summarized in Table 16. Table 16 also breaks the responses down in terms of French language and English language teachers.

The results indicate that the teachers of the Grade 4 students consider the resource materials available to them in each of the subjects assessed to be adequate or better. Only in the areas of Science and Social Studies did a substantial number of respondents indicate the materials to be inadequate.

Table 16

Teacher Questionnaire
Data Summary: Total
27 teachers
N = 15 French
N = 12 English
(Median Response Underlined)

1. There are five subjects being examined in this study. How would you rate the value of the teacher's resource material available to you for each of these subjects? (Check only for the subjects you teach.)

	EXCELLENT	GOOD	ADEQATE	INADEQATE	OMIT
- English language arts	2	9	1		
- French language arts	2	7	4	3	
- Mathematics	2	7	1	1	1
- Science	1	4	4	6	
- Social Studies	1	3	8	3	

Table 16 cont'd
Data Summary: Total

2. On your last full teaching day (whether it was "typical" or not), how much time was spent on each of the subjects you teach? Answer only for the first class you met that day.

TIME SPENT: LAST SCHOOL DAY (IN MINUTES)

	0-10	11-20	21-30	31-40	41-50	more than 50	Omit
- Language arts (English)	-	-	1	1	4	6	
- Mathematics	-	-	2	6	2	1	
- Science	8	2	5	-	-	-	1
- Social Studies	5	1	6	3	-	-	
- Visual Arts	10	3	1	-	-	1	
- Music	7	1	3	1	-	-	
- Physical Education	10	-	4	1	-	-	
- Family life	9	-	2	1	-	-	
- Language arts (French)	-	-	-	1	4	10	
- Religion	2	1	8	1	-	-	

3. About how often do you and your counterpart in the other half of the program meet?

Formally		Informally	
Regular	Irregular	Regular	Irregular
1	1	12	12

Table 16 cont'd

Data Summary
French Teachers
N = 15

1. There are five subjects being examined in this study. How would you rate the value of the teacher's resource material available to you for each of these subjects? (Check only for the subjects you teach.)

	EXCELLENT	GOOD	ADEQATE	INADEQATE
- English language arts				
- French language arts	2	7	4	3
- Mathematics				
- Science	1	4	4	6
- Social Studies	1	3	8	3

Table 16
Data Summary - French Teachers
cont'd

2. On your last full teaching day (whether it was "typical" or not), how much time was spent on each of the subjects you teach? Answer only for the first class you met that day.

	TIME SPENT: LAST SCHOOL DAY (IN MINUTES)					
	0-10	11-20	21-30	31-40	41-50	more than 50
- Language arts (English)						
- Mathematics						
*- Science	8	2	5			
*- Social Studies	5	1	6	3		
*- Visual Arts	10	3	1			
- Music						
*- Physical Education	10	3	1			1
- Family life						
*- Language arts (French)				1	4	10
- Religion						

3. About how often do you and your counterpart in the other half of the program meet?

1 regularly and formally
4 regularly and informally
1 irregularly and formally
9 irregularly and informally

Table 16 cont'd

Data Summary
English Teachers
N = 12

1. There are five subjects being examined in this study. How would you rate the value of the teacher's resource material available to you for each of these subjects? (Check only for the subjects you teach.)

	EXCELLENT	GOOD	ADEQATE	INADEQATE	OMIT
- English language arts	2	9	1		
- French language arts					
- Mathematics	2	7	1	1	1
- Science					
- Social Studies					

Table 16
Data Summary - English Teachers
cont'd

2. On your last full teaching day (whether it was "typical" or not), how much time was spent on each of the subjects you teach? Answer only for the first class you met that day.

	TIME SPENT: LAST SCHOOL DAY (IN MINUTES)						
	0-10	11-20	21-30	31-40	41-50	more than 50	Omit
* - Language arts (English)			1	1	4	6	
* - Mathematics			2	6	2	1	1
- Science							
- Social Studies							
- Visual Arts							
* - Music	7	1	3	1			
- Physical Education							
* - Family life	9		2	1			
- Language arts (French)							
* - Religion	2	1	8	1			

3. About how often do you and your counterpart in the other half of the program meet?

___ regularly and formally

_8_ regularly and informally

___ irregularly and formally

_3_ irregularly and informally

_1_ Omit

Each teacher was asked to indicate how time had been spent, not on a typical day, but on the last full teaching day. This information results in odd data for individuals responding perhaps, but when it is summed over many teachers, provides a "snap-shot" of the board during a "single" day of teaching. As is clear from the data, the majority of time is devoted to Language Arts (in both languages), with lesser amounts to Mathematics, Social Studies, and Religion. It is also noteworthy that on this "day", in the majority of classroom, 10 minutes of instruction or less was provided for five subjects: Science, Visual Arts, Music, Physical Education, and Family Life.

The two teachers of the same class generally meet each other informally when they meet at all. This finding suggests that the students' programmes are being carried on independently of one another. Any integration of knowledge across the two major language elements of the programme, therefore, is being left largely to the child to encompass.

6. If the bilingual programme is a significant factor in accounting for

> differences in pupil achievement, at what grade level and in what subject areas does it first become so?

One of the variables of interest in the student background questions that accompanied both the written and performance instruments was the length of time the students had participated in the 50-50 programme. In the absence of the more desirable, longitudinal data about progress, it was felt that length of time should bear a systematic, if not a linear relationship with achievement in the programme as measured by the assessment. In other words, the longer the pupil had been in the programme, the better his or her achievement was expected to be, in all the subjects evaluated. The argument can only be suggestive rather than confirmatory. A more elaborate, longitudinal design would be necessary to indicate precisely where weaknesses and strengths exist within the present programme. Nevertheless, the data are illustrative of the possible areas and times that might fruitfully be examined in more depth.

The expected relationship for the French language instrument should be somewhat curvilinear, with the effect of years in the programme "tailing off" as more

Table 17

Frequency Distributions of Total Score (English & French Instruments) By Number of Years in 50-50 Programme in Once School (Means & Standard Deviations are Provided Below)

Total Score	1 Year		2 Years		3 Years		4 Years		More than 4 Yrs.		Total	
	Eng.	French	Eng.	French	Eng.	French	Eng.	French	Eng.	French	Eng.	French
No Score Obtained	2		2	2	2	2	4	1	2	2	18	7
0-4												
5-9				1							0	1
10-14		1	3	0	1					1	4	2
15-19	1	4	0	1	0	1		1	3	2	4	9
20-24	0	5	6	6	4	4	3	3	7	10	20	28
25-29-	5	4	7	11	0	4	1	3	17	22	30	44
30-34	8	0	4	7	10	6	4	4	22	35	48	52
35-39	6	3	5	8	6	8	5	5	26	31	48	55
40-44	10	1	4	6	4	2	2	7	27	20	47	36
45-49	5	2	4	4	5	3	5	4	21	12	40	25
50-54			2		1	1		1	5	2	8	4
$\overline{X}$	36.71	27.25	32.29	32.11	35.38	33.72	36.25	36.11	36.80	34.33		
S.D.	7.26	10.18	10.95	8.82	9.01	8.54	8.41	8.97	8.35	7.67		
TOTALS	35	20	35	44	31	29	20	28	128	135	249	256

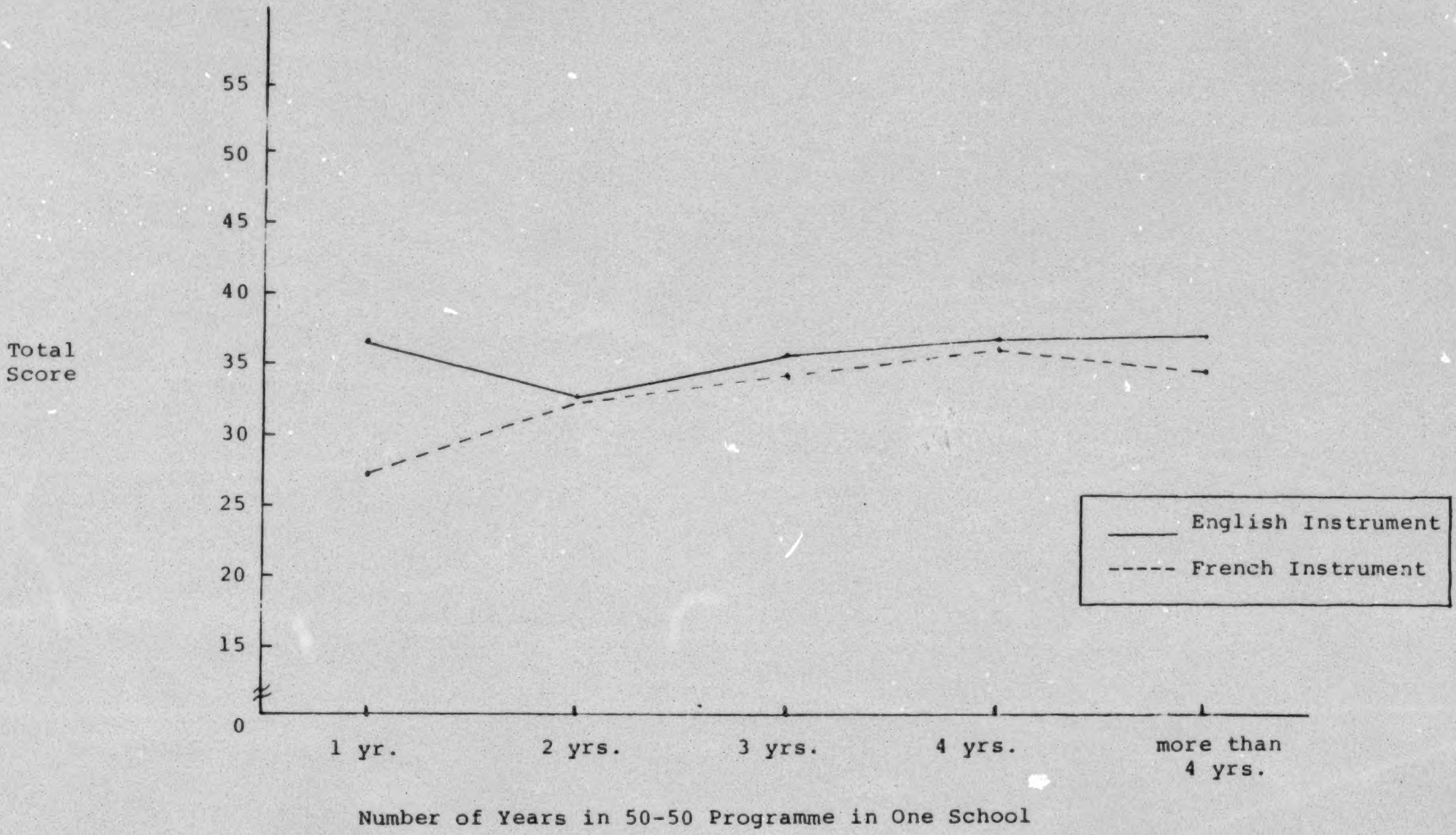
years are added to the programme. To illustrate, suppose that a child enrolled in the 50-50 programme for Senior Kindergarten having missed part or all of the first year. One would not expect the effect of this one less year to be as pronounced (or even half as pronounced) as that caused by a two-year gap. This expected relationship turns out to be very close to the actual results (see Table 17 and Figure 2). The achievement of the students increases fairly rapidly for those attending for a few years but falls off considerably for those who have been in the programme for most of their schooling. (The apparent falling-off between the 4 year and more-than-4 year groups is almost certainly due to the large numbers in the latter group compared to the former. Thus, it is probably an artifact of the analysis rather than an indication of the programme effects.)

The same relationship should also hold for the English language instrument although for different reasons. Because the instrument measures objectives taught in the Ottawa R.C.S.S.B.'s own programme, length of time in the programme should result in higher achievement. The effect of years, however, would also be expected to be like that in the French language instrument, falling off as the number of years increases. The effect, however, is not likely to be as steep as that in the French programme, because students transferring into the 50-50 programme are more likely to come from unilingual programmes. Consequently, the English language subjects are likely to be more familiar to them, both in content and in language of instruction.

A disparate result, then, was actually found for those students who have spent the least amount of time in the programme: their achievement is identical to that obtained by those who have been in the programme the longest, and higher than all the other groups. (These differences are to be taken as suggestive only given the small number of students found in all but the final groupings.)

Figure 3(a) and (b) examines the total scores in terms of their subject matter components. Generally, the subtest scores follow the pattern found in the total instruments. Two exceptions in the English language instrument, however, are worthy of mention. The group of students who have transferred most recently into the 50-50 programme have substantially higher achievement than those

Figure 2
Means of Total Scores (English & French Instruments) by Number of Years
Years in 50-50 Program in One School



*NOTE: The two instruments have different content and different scores so comparisons between instruments are invalid.

Figure 3(a)

Median Scores on French Language Subjects by Number of Years in 50-50 Programme

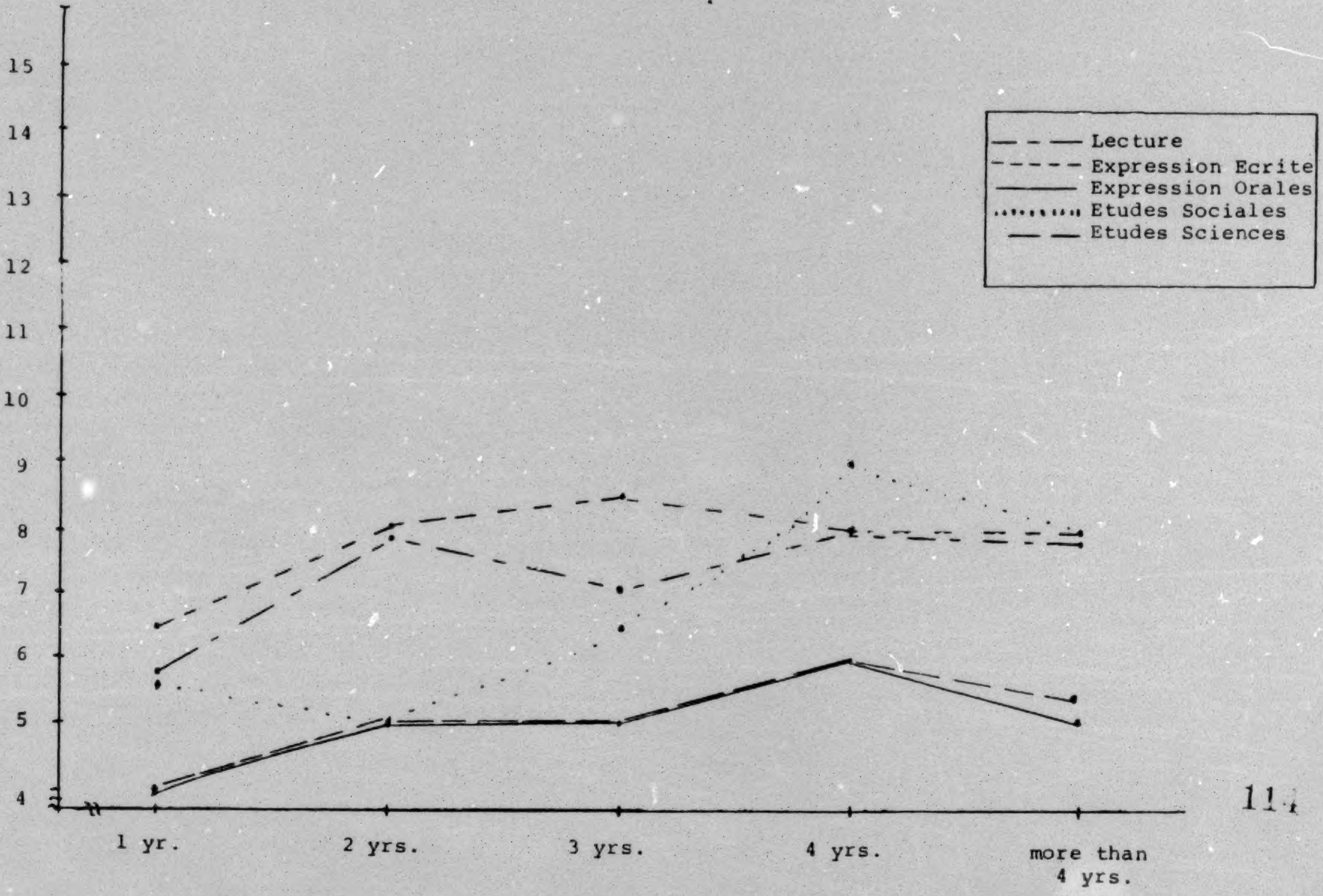
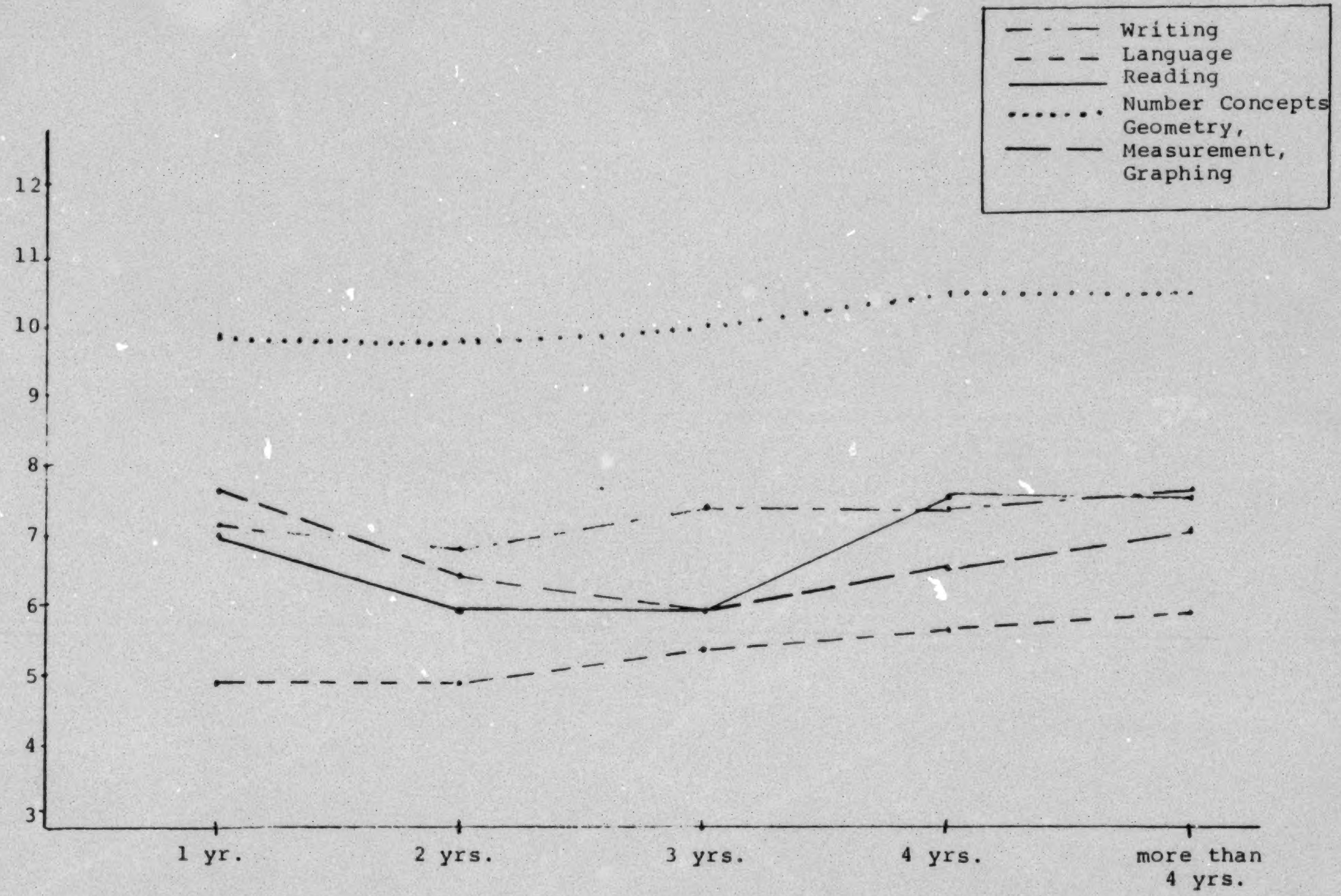


Figure 3(b)

Median Scores on English Language Subjects by Number of Years in 50-50 Programme



who transferred next in two areas: Reading and Geometry, Measurement, and Graphing. Because this data is cross-sectional rather than longitudinal it is difficult to tell if this affects individuals or occurs due to the differences in achievement between these two particular groups. In any case, the differences are made up as the years go on and the programmes's objectives and instruction take their effect.

In total, then, the 50-50 programme appears to operate as would be expected based on the present data. These data, however, are not fully persuasive. A more longitudinal study would be needed to fully explore this question. In particular, such a study would need to focus not so much as what was taught well in the programme, but also what was not taught so that the full effect of the programme's impact could be monitored.

IV

INTERPRETATION

What the Results Mean

Curriculum planning and implementation involve choices. Choices are made by everyone in the system. Board members decide on policies and resource allocations; directors, superintendents, coordinators, and consultants operationalize these policies; principals, teachers, and students make decisions daily that emphasize or de-emphasize various goals of the curriculum.

Choices are also made largely on the basis of value, of judgements as to what is important to an individual or to a group within the system. Reaffirming the directions in which a programme is going involves reaffirming a value system. Changing programmes, then, inevitably involves changes in values.

Before recommending or executing changes or reaffirmations, it is important to know (as objectively as possible), what values and choices are currently operating. The present report, in its Results section, has attempted to provide that information in as value-free a way as possible. In the Interpretation section, however, the evaluators are more free to judge the meaning of the results. Their perspective is valuable in that it is based on a variety of information (incomplete though it may be) and is relatively objective, the evaluators having no position to take that can be personally rewarding rather than professionally sound.

Part of the responsibility of the evaluators, then, is to comment not only on what is being done but what is being done partially and what is not being done at all. In addition, it is important to point out what the benefits and costs are to these actions.

The present study focussed on student learning within the 50-50 programme. Several different types of information were collected that bear on this question: item, sub-test, and total score results from assessment instruments, interpretation panel results, oral-aural performance ratings, comparison of criterion-referenced and standardized test results to those attained in other jurisdictions, as well as suggested and implemented time allotments for various subjects.

From all this information, it is clear that on those learnings that emphasize basic knowledge, the board's students are generally progressing in a satisfactory manner. Basic skills in Language Arts (English and French) and Arithmetic are being addressed reasonably successfully. It is clear that teachers emphasize these activities; indeed, they wish they could spend more time on them. When the achievement of the Ottawa R.C.S.S.B.'s students is compared to that in another local area or that of the B.C. children on these important objectives, the levels of attainment are comparable. In Language Arts (French), the students' generally appear to listen well to directions, and perform simple tasks well which require the use of this language.

In traditional schooling terms, then, with pupils listening to teachers an[illegible]rking on fundamental skills, mainly in language development and mathematics, the 50-50 programme is working satisfactorily. On the Canadian Tests of Basic Skills, where these types of learnings are pre-eminent, both the average attainment and the deviation in achievement are within the national range of performance even though the Ottawa R.C.S.S. Board's students spend one-half their day studying in another language. The degree to which this other part of the programme is working in the same manner is highlighted by the impossibility of finding other local boards to participate in a comparative study with the French language instruments developed for a Grade 4 population.

Generalizations such as these necessarily apply across the board. The large deviations in performance, however, indicate that many students within most classrooms are not reaching marginal levels of attainment, especially on those objectives in the programme that are not directly related to basic skills. Two major indications were found in this study that probably exacerbate this trend. First, most of the instruction in the classrooms focuses on teacher-led, large group instruction. As a practical matter, the teacher must address some sort of middle-level ability in operating this way. In addition, the objectives of the programme that stress applications to real-life situations--the types of learning that involve transfer and for which slower pupils especially need the most help--are the least taught (and learned) in the programme.

That this is a function of the Ottawa R.C.S.S.B.'s own values is evident in the comparisons that can be made to the cooperating board's attainment and to that achieved on certain items by B.C. children. The deviation or spread of scores on the English language instrument is narrower in the cooperating board, indicating a higher level of homogeneity of achievement within the classrooms there. In addition, the left-skewness one would expect to find with criterion-referenced tests--a situation in which there are large numbers of students demonstrating high levels of competence on items directly matched to what they have been taught--is found more readily and to a higher degree in the cooperating board.

Some specific item comparison will illustrate the point. Here are two items in which the Ottawa R.C.S.S.B. children do approximately as well as children in the co-operating board and/or in B.C.:

> La terre tourne une fois par année autour:
>
> (a) du soleil
> (b) de toutes les planètes
> (c) de la lune
> (d) de Mars
> (e) Je ne sais pas.

Eighty-seven per cent (87%) answered correctly.

AND:

SUBTRACT:

$$\begin{array}{r} 86 \\ -\ 22 \\ \hline \end{array}$$

(a) 64 (b) 68 (c) 54 (d) 108 (e) I don't know

Ninety per cent (90%) answered correctly.

When the items become more complex or require applications of knowledge, however, the children's performance suffers. Here are two examples where the achievement of the Ottawa R.C.S.S.B.'s students and those in other jurisdictions are not similar, where children in one or both of these other areas perform much better:

> The rush hour traffic moved along
> at a snail's pace so there were many
> traffic jams.

What does this sentence mean?

(a) Snails caused a traffic jam.

(b) The cars were covered with snails.

(c) The traffic barely moved along.

(d) The traffic was rushing along the highway.

(e) I don't know.

Ottawa R.C.S.S.B. - 40%; Cooperating Board - 64%; B.C. - 76%

And:

> Comment arrive-t-on à énoncer des lois scientifiques comme celle de la loi de la chute des corps?
>
> (a) Les hommes de science les passent au vote.
>
> (b) C'est le gouvernement qui en décide.
>
> (c) C'est la police qui les fait.
>
> (d) Les lois sont formulées après de nombreuses expériences.
>
> (e) Je ne sais pas.

Ottawa R.C.S.S.B. - 29%; British Columbia - 64%

In the first item, the children are required to read a passage that does not make sense in a literal way. They must be alert to figurative language, and hypothesize as they read concerning the meaning of the passage. A heavy emphasis on literal comprehension misses this attention to nuance, the very area of course where much of the richness of written expression resides. In the second item, the knowledge being measured is very fundamental to the definition of science. Scientific knowledge differs from other types precisely because it is tested and re-tested and that the laws of science can be changed (and frequently are) as new concepts are verified and others discarded. The probabilistic nature of science is critical to its comprehension. The score attained by the Ottawa R.C.S.S.B. on this (admittedly) very difficult question is not much above what would be expected by chance alone. The scientific method, however, is very much a part of the curriculum in the board: the question is fair.

The items also reflect a fundamental point in this comparison. The contrasts hold no matter which part of the 50-50 programme is being examined. Whatever factors may have contributed to this concentration on the lower level skill activities, it is evident from our reading of the data that this concentration is shared by educators working in both languages within the system.

One question of interest to the board (Will the change in the 50-50 programme to an extended L_2 programme result in significant differences?) should also be addressed by referring to the above conclusion. The present Language Arts: French programme is very basic skills-oriented, behaviouristic in philosophy and atomistic in design. There is at present little in the programme that explores the culture of French-speaking peoples, that asks students to apply their linguistic knowledge in every-day situations outside the school environment or, indeed, even very successfully in Etudes Sociales and Etudes Sciences. There is little correlation at present between achievement in the programme and outside influences. The performance scores are highest on those aspects of the language (listening) that are most passive. From studies of the transfer of learning, one would predict that the facility in the language that is progressing adequately in these basic skills at the present time would drop off markedly as soon as the amount of time devoted to maintaining or increasing that facility is shrunk.

It is the quality of that time, however, that is of most importance. What children do in the time devoted to learning another language could be adapted so that maximum transfer to "real life" was ensured. The city of Ottawa is virtually unique in all of Canada as an environment for just such activity: the city is in fact a giant classroom, filled with national museums, cultural centres in the arts, government institutions at the heart of our political heritage where citizens are operating bilingually together every day. Field trips, of course, are but one avenue to opening up the programme to real world experiences, but one which would be especially useful to the 50-50 students if they have to operate in the French language while on these excursions. The unity of language study with Social Studies and Science could be stressed, as would the real world usefulness of the entire educational programme.

What is being suggested here is not new. It is, indeed, the stated policy of the Ministry of Education that such integrated learning be operative for children at this age level. The central policy document P1J1: The Formative Years has not had a major impact on the primary programme of the board, at least as that programme is actually being implemented.

There are two reasons why this situation is not good. First, the policy of the Ministry should be implemented in the schools (to the degree possible or desirable) because the funding and responsibility for education for all children in the province is shared by all citizens in the province. Secondly, and more importantly, the philosophy in the document seems particularly relevant to the findings of this study in this board. The document stresses the need for relevance in the learning, the need for active involvements by youngsters of this age if integration is to occur. Children of this age are not ready to make their own conceptual links, to tie academic concepts together in intellectual webs, that will personalize their learning. Help must be given them.

The future of the 50-50 programme (it seems to us) resides more clearly in these areas than it does in reduced or increased time allotments and subject shifts. Children will learn what is repeated and what is useful. If what they learn is both repeated and useful, they are likely to benefit themselves and their society by becoming more complete human beings.

V

RECOMMENDATIONS

What Should be Done

1. The Ottawa R.C.S.S.B. should establish a policy to the effect that the P1J1 policy circular: The Formative Years will now become the blueprint for educational decision-making in the primary division. To implement that policy, central office staff should prepare an implementation plan that sets objectives and measures of implementation, a plan to be reviewed on an annual basis. The plan should ensure that implementation is encouraged from the classroom out rather than from the board office down.

Primary teachers in the board are obviously under pressure from the 50-50 programme: under pressure to produce students with adequate skills in two languages as well as implement a curriculum that is wide-ranging and diffuse. In addition, they deal with the youngest children in the school, and meet twice as many of them daily as do teachers in other systems.

If they are to be asked to alter long-standing practice, they should be given the resources to do it. Other research has consistently shown that top-down implementation is seldom effective. By providing teachers with the opportunity to engage in classroom visitations, in time to develop or select resources from centres and from the community, in the opportunity to meet formally and regularly with their students' other teachers and other like strategies, a climate of acceptance of necessary change could be created.

The principals of the schools, as always, will be critical components of the programme. It might be desirable to have each principal analyze his own school's needs in terms of implementing important aspects of the Ministry's policy, and to have the expectation that parts at least of the proposal he makes annually will be financed by the board. Principals also will be in the best position to serve as curriculum leaders in this regard, and can be held accountable for the movement their primary divisions make toward the board's goals.

2. While the board's central office staff has, of necessity, been producing curriculum resource materials during the last few years, their emphasis should now shift to that of helping, resource people. They could provide demonstration lessons to teachers upon request, illustrating the methodology implied by P1J1; they could organize diagnostic and remedial programmes (especially for those students who enroll in the 50-50 programme in the latter grades from unilingual programmes elsewhere); and relieve teachers for day-long periods for in-service activities supported by the school. Obviously, there are numerous other ways in which this helping role could be operationalized, but the illustrations are given to emphasize the need to move away from resource development (except possibly in the Science and Social Studies areas) and move towards implementation of the curriculum and appropriate instructional modes.

3. As has been noted before, this programme is, in many ways, a unique attempt to produce bilingual citizens in a bilingual setting. As such, it would provide itself and others with a useful service if it monitored the graduates of its primary system as they work their way into adulthood. One of the fears raised

> in this report has been that without adequate follow-up, indeed, without adequate instruction in the first instance, this may show that the language facility that is being developed at great cost may drift away unless it is nurtured in subsequent years in the system. Such an evaluation scheme need not involve a costly research design model. It could, instead, consist of annual questionnaires to a large cohort group (it will shrink with time) that follows their academic as well as personal progress through the high school grades at least. As changes in programme are made from year to year, the effects or non-effects of those changes can be documented by appealing to objectively-developed information.

The evaluators were given many different "problems" to look at during the conduct of this study. The problem areas most often mentioned concerned time, morale, transfers, timing of the termination or extension of the programme, and provisions for slower learners and third language children. Clearly, these are all of real importance, and need to be addressed. What we have found and concentrated on in our interpretation, however, is the programme itself (as we were charged to do). It is our conclusion that the present programme could be made more effective for its clients if the board's efforts were directed, not at diluting the present emphasis on basic skills, but on buttressing it by expanding the idea of what is "basic" and helping the children become active participants in the integration of the learnings set for them in the Ottawa R.C.S.S. Board's programme.

THE OTTAWA ROMAN CATHOLIC SEPARATE SCHOOL BOARD

APPENDICES TO

THE ASSESSMENT OF THE 50/50 PROGRAMME IN THE ENGLISH SECTOR SCHOOLS

FEBRUARY 1982

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Objectives Assessed in the Project

ENGLISH LANGUAGE ARTS OBJECTIVES

I Decoding

The student will demonstrate an ability to use the following skills and knowledge in the reading process:

1. word meaning
2. word attack (phonics, structural analysis)
3. spelling.

II Ginn Program — Weight

1. The student will understand and be able to use appropriate vocabulary tied to particular themes: cats, trains, colour. 16
2. The student will be able to classify vocabulary and information by preparing lists: e.g. word, shopping. 9
3. The student will be able to use time order words. 5
4. The student will be able to construct complete sentences. 2
5. The student will understand the following parts of speech and sentences. He will be able to find them in appropriately graded material: .
   - subjects and predicates
   - verbs
   - nouns: singular and plural; possessive; proper
   - noun signals
   - adjectives
   - adverbs
   - pronouns in both subject and predicate. 12
6. The student will recognize and use descriptive words and phrases to enhance his writing: adverbs, adjectives, similes, expressive verbs. 13
7. The student will recognize descriptive and informative prose and will write descriptive and informative paragraphs. 2 inf. 6 desc.
8. The student will recognize and employ sentence variety, connectives and details to support the main idea. 7
9. The student will comprehend: a paragraph, a story, a poem, an article, a song, related to a theme. 21
10. The student will be able to:
    (a) understand and follow directions 2
    (b) write directions. 3

11. The student will understand and be able to use the following conventions in writing:
    - paragraph indentation
    - contractions
    - capital letters
    - quotation marks
    - commas (speaker tags, noun series) 7

12. The student will understand and begin to practise proofreading. 3

13. The student will know that a story has a beginning, middle and end, will assess the quality of beginnings and endings, and will write some. 5

14. The student will learn to generate story ideas, construct an outline, and tell a story. 4

15. The student will:
    (a) comprehend stories with conversation 2
    (b) write stories with conversation 2

16. The student will:
    (a) comprehend a story character 2
    (b) write a character description. 1

17. The student will write poems and song verses. 6

18. The student will prepare report questions, find answers, organize information in time order, outline and prepare a report. 7

19. The student will be able to recognize and use different points of view in story writing. 1

20. The student will recognize and be able to write a fairy tale and a fantasy story. 4

21. The student will use captions to tell a story given in pictures. 2

22. The student will recognize overused words. 1

23. The student will understand some jokes with a language focus. 1

24. The student will prepare: a plan for an activity; recipe directions. 2

25. The student will be able to write personal letters and postcards. 1

26. The student will comprehend questions and safety rules. 2

The following activities were not incorporated into the objectives list because of the overlap with the French curriculum.

- designing posters
- recording observations
- carrying out experiments
- charting observations
- locating information on a map.

MATH OBJECTIVES

NUMBERS

1. The student will be able to read and write in digit form the numerals 1 - 999.
2. The student will be able to count by 3's, 4's, 5's and 10's.

3&4. The student will be able to perform addition and subtraction facts to 20.
(Grade 1: 1 - 10; Grade 2: 11 - 15; Grade 3: 16 - 20)

5. The student will begin to drill addition and subtraction facts to 25.
6. The student will read, understand and solve simple one step problems in written form.
7. The student will use Commutative and Associative Property in addition and multiplication.
8. The student will understand and be able to use the symbols $<$ and $>$ in simple number statements.
9. The student will understand place value and be able to use expanded notation for two and three digit numbers.
10. The student will be able to add and subtract two and three digit numbers with and without regrouping.
11. The student will be able to add columns of 1, 2,3 digit numerals to 999.
12. Extensions

13. The student will know multiplication and division facts to 10x10 and 100÷10.
14. The student will begin to drill multiplication facts and division facts to 5x10 and 50÷5.
15. The student will be able to multiply 1 and 2 digit numerals by 10.
16. The student will be able to multiply a 2 digit numeral by any 1 digit numeral with and without regrouping.
17. The student will be able to recognize and illustrate the following common fractions of objects: halves, thirds, fourths, fifths, tenths.
18. The student will be able to read and convert to common fractions decimal fractions 0.1 to 0.9.

GEOMETRY

19. The student will be able to label the shapes: circle, triangle, square, rectangle, cube, cylinder, cone, sphere.
20. The student will be able to recognize and name the following figures: quadrilateral, parallelogram, pentagon, hexagon, octagon, decagon.

21. The student will be able to recognize and discuss the presence of geometry in real life (i.e. prisms).
22. The student will be able to relate three dimensional models to two dimensional shapes.
23. The student will understand the concept congruence.
24. The student will understand the concept symmetry.

MEASUREMENT

25a.The student will be able to recognize the appropriate unit of measurement: centimetre, metre, kilometre.
  b.The student will be able to measure common objects using an appropriate measuring device.
26a.The student will understand the concept perimeter.
  b.The student will calculate the perimeter of a given figure of uniform squares.
27a.The student will understand the concept area.
  b.The student will compute the area of a given figure of uniform squares.
28. The student will understand the use of measures of capacity (millilitre and litre) and their relationship to each other.
29. The student will understand the use of measures of mass (gram and kilogram) and their relation to each other.
30a.The student will understand the concept of temperature measure.
  b. The student will take both indoor and outdoor temperature measures.
31. The student will be able to tell time to five minute intervals.
32a.The student will be able to read and write money amounts.
  b.The student will recognize coins up to one dollar.
  c.The student will be able to add and subtract money amounts without regrouping.

GRAPHING

33a.The student will be able to read a pictograph.
  b.The student will be able to draw a pictograph.
34a.The student will be able to read horizontal and vertical bar graphs.
  b.The student will be able to draw horizontal and vertical bar graphs.

FRENCH LANGUAGE ARTS OBJECTIVES

Conversation

I The student will develop the ability to speak accurately and with ease in the French language and to comprehend oral French.

1. The student will practise listening to and speaking French in teacher-led discussions and drills about:
   - reading text
   - other books
   - poems
   - real experiences
   - current events
   - field trips, films, pictures.

2. Based on stories and pictures studied, the student will create orally:
   - sentences
   - stories
   - dialogues
   - short poems.

3. The student will develop and refine his spoken French by practising:
   - the use of complete and correct sentences
   - correct grammatical structures (before being required to write them).

Reading

II The student will develop the ability to read and comprehend written French.

4a. The student will read in a teacher-directed situation in order to learn:
   - difficult words, in context
   - idioms, as they occur.

b. The student will read the sentences from stories studied, both silently and aloud.

5. The student will continue his study of the sound of French words using:
   - flashcards
   - fill in the blanks
   - lists of target words
   - special lessons on sounds

6. The student will read additional material:
   - related to the lessons
   - of his own choosing.

Writing

III The student will develop the ability to write French accurately and with ease.

7. At the conclusion of the Primary Division, the student will write and print on every line using a whole space for capitals and half space for small letters. The student will utilize writing for all work except maps, diagrams and posters.

8. The student will copy accurately:
   - words
   - sentences
   - stories and dialogues composed in class
   - poems.

9. The student will demonstrate comprehension of the text studied by:
   - writing answers to questions
   - completing sentences from the text
   - ordering and numbering ideas
   - arranging sentence parts
   - giving antonyms and synonyms.

10a. The student will understand and write correct grammatical structures and conventions:
   - capital letters and periods
   - avoir (present indicatif)
   - être (present indicatif)
   - 1er verbs (present indicatif, passé composé, futur simple).

b. The student will correctly use, employing familiar vocabulary:
   - nouns (masculine and feminine, singular and plural, "eau")
   - adjectives (masculine and feminine, plural)
   - articles
   - ces or ses
   - son or sont
   - ont or on.

c. The student will identify the following, using familiar vocabulary:
   - names of persons, animals, things
   - the feminine form of known adjectives
   - qualifying adjectives.

11. The student will learn French vocabulary words accurately (spelling and meaning).

12. Together students will create simple sentences, stories and dialogues based on the texts studied.

SCIENCE OBJECTIVES

BEHAVIOURAL DOMAIN

Knowledge

I The student will understand and appreciate the nature of science and its modes of inquiry in discovering knowledge of the physical world.

II The student will understand and appreciate the impact of science on man's activities and the progress of society.

Application

III The student will develop intellectual skills in the use of the methods of science in the solving of problems.

Skills to be Developed in the Primary Grades

1. Observe, record and report data accurately.
2. Use measurement instruments.
3. Compare and classify data.
4. Create hypotheses.
5. Plan experiments.
6. Use models to study natural phenomena.
7. Generalize.
8. Make predictions based on data.
9. Interpret changes in cause and effect.relationships.

Principles

IV The student will acquire a functional understanding of facts, concepts and principles of science to appreciate and interpret the natural environment.

Concepts to be Developed in the Primary Grades

1. Diversity
2. Change
3. Continuity
4. Interaction
5. Organization
6. Limitation

CONTENT DOMAIN

Content Areas Provided for Assessment

I Primary Curriculum: Kindergarten, One Two.

II Primary Curriculum: Three

French Language Units	1	Molecules
	6	Electricity
	7	Variation
	13	Plants Vary in Size, Shape and Colour
English Language Units	9	Changes in Season Affect Plants and Animals

10 Our Sun and Its Planets
11 Day and Night
14 Hurricanes and Tornados
15 Thunder and Lightning
17 Prehistoric Environment

SOCIAL STUDIES OBJECTIVES

BEHAVIOURAL DOMAIN

Knowledge

I The student will acquire an understanding of the facts of social studies relevant to the concepts and topics chosen for study.

Application

II The student will demonstrate use of the skills to be developed in the primary grades.

Skills of be Developed in the Primary Grades

1. Listen attentively.
2. Compare and contrast material about countries, peoples, lifestyles.
3. Gather information from a variety of sources.
4. Observe and identify landmarks during fieldtrips, from photographs.
5. Understand and use a globe.
6. Comprehend text materials and aerial photographs.
7. Develop map skills: know directions north, south, east, west
   locate places
   calculate distances
   identify routes
   recognize symbols.
8. Develop reasoning ability.

Principles

III The student will acquire an understanding of the concepts and principles of social studies to appreciate and interpret the world in which he lives.

Concepts to be Developed in the Primary Grades
* emphasized at grade three

*Regionalism
*Globalism
*Demography
Culture
*Interdependence
Utilization of Resources
*Change
Government and Authority

CONTENT DOMAIN

Content Areas Provided for Assessment
I Primary Curriculum: Kindergarten, One, Two.
II Primary Curriculum: Three

1. La Terre et Le Globe Terrestre
2. Mon Pays: Le Canada
3. Ottawa: Aujourd'hui
4. Ottawa: Autrefois
5. Ottawa: Son Environnement Rural

APPENDIX B

Final French Language
&
English Language Instruments

Questions 36 through 45 on the French Language instrument comprised the oral section. Included in Appendix B, follow-in the French Language Instrument, is a transcript of those questions.

OTTAWA ROMAN CATHOLIC SEPARATE SCHOOL BOARD

PROGRAM ASSESSEMENT

1982

LANGUAGE ARTS: ENGLISH - MATHEMATICS

DIRECTIONS

TO THE STUDENT

1. You will need a pencil and an eraser to complete this test.
2. If you need to do rough work, please do it right in this booklet.
3. Use your answer sheet for your final answers only.

EXAMPLE:

99. How many apples would you have if your mother and your father each gave you 2 apples?

(A) two apples
(B) four apples
(C) six apples
(D) eight apples

(E) I don't know

EXAMPLE OF ANSWER SHEET

	A	B	C	D	E
98	0	0	0	0	0
99	0	●	0	0	0
100	0	0	0	0	0

LANGUAGE:

1. Which shopping list would you use if you were shopping in a bakery?

   (A) bread, doughnuts, cake, pie
   (B) cake, milk, pie, bread
   (C) doughnuts, paper towels, pie, cake
   (D) pie, bread, meat, cake

   (E) I don't know.

2. Read the following sentence. Then, choose the best answer.

   I won't go to buy it.

   This sentence means:

   (A) I had not gone to buy it.
   (B) I will not go to buy it.
   (C) I have not gone to buy it.
   (D) I was not going to buy it.

   (E) I don't know.

3. Read the following sentence. Then, choose the best answer.

   We'd like to have dessert.

   This sentence means:

   (A) We ate our dessert.
   (B) We will eat our dessert.
   (C) We want to eat our dessert.
   (D) We might have eaten our dessert.

   (E) I don't know.

4. A sentence begins with this phrase:

   The puppy ____________________.

   Which words would fill in the space to make a complete sentence?

   (A) with the wagging tail
   (B) in the window
   (C) soaked to the skin
   (D) barked sharply as a warning

   (E) I don't know

5. Which word would fill in the blank in the correct alphabetical order?

ladder opal __________ silver

(A) gold
(B) net
(C) table
(D) river

(E) I don't know.

6. Which sentence has a line drawn between the subject and the action (predicate)?

(A) The hurrying teacher ran/the last few steps to the car.
(B) The hurrying teacher ran the last few steps/to the car.
(C) The hurrying teacher ran the last/ few steps to the car.
(D) The hurrying teacher/ran the last few steps to the car.

(E) I don't know.

7. A sentence begins with this phrase:

The quietest kitten __________.

Which words would fill in the space to make a complete sentence?

(A) with the orange coat
(B) in the kennel
(C) dripping with water
(D) rolled itself up

(E) I don't know.

8. Which of the following words would best complete this sentence?

   The library book must be returned on Tuesday __________ you will have to pay a fine.

   (A) and
   (B) but
   (C) because
   (D) or

   (E) I don't know.

WRITING:

9. Each of the following words could complete the sentence below. But which of the following words would be most effective in completing the following sentence?

   Each morning a __________ old man walks by our house leading a bulldog.

   (A) very
   (B) really
   (C) dignified
   (D) miserly

   (E) I don't know.

10. Cam and his friend often flew model airplanes on Saturday. They would go down to a special flying field, where they would meet many other people with their own model boats. Then they would wait their turn to fly.

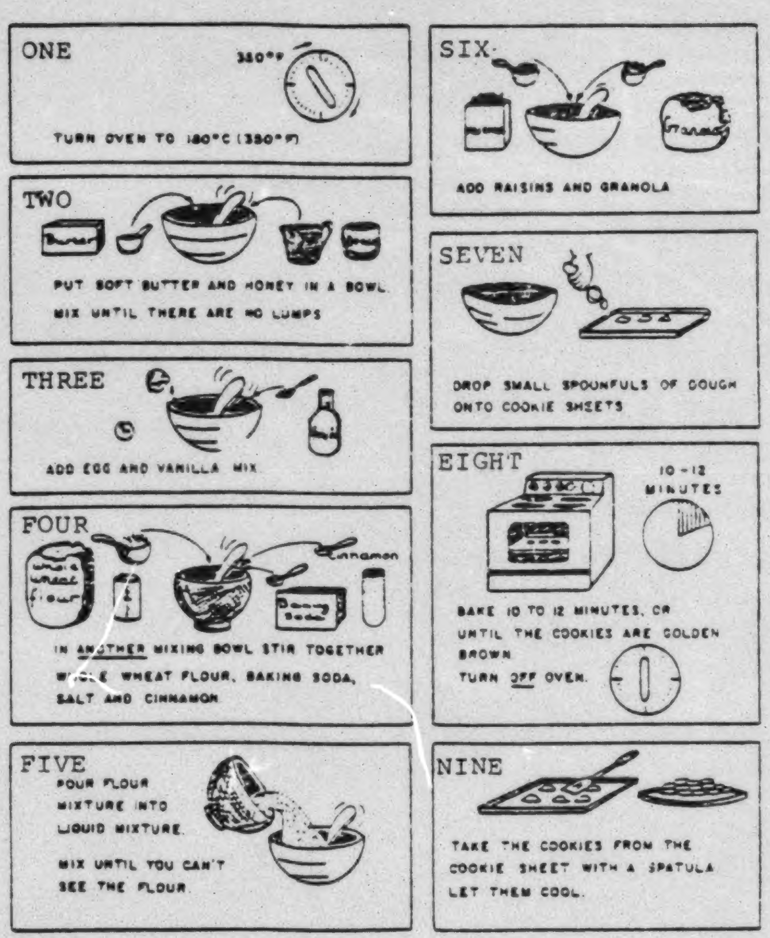
   Which word does NOT belong in the story?

   (A) flew
   (B) special
   (C) boats
   (D) people

   (E) I don't know.

Read the recipe and then answer the questions that follow.

Granola Cookies



ONE
TURN OVEN TO 180°C (350°F)

TWO
PUT SOFT BUTTER AND HONEY IN A BOWL.
MIX UNTIL THERE ARE NO LUMPS

THREE
ADD EGG AND VANILLA. MIX.

FOUR
IN ANOTHER MIXING BOWL STIR TOGETHER WHOLE WHEAT FLOUR, BAKING SODA, SALT AND CINNAMON

FIVE
POUR FLOUR MIXTURE INTO LIQUID MIXTURE.
MIX UNTIL YOU CAN'T SEE THE FLOUR.

SIX
ADD RAISINS AND GRANOLA

SEVEN
DROP SMALL SPOONFULS OF DOUGH ONTO COOKIE SHEETS

EIGHT
BAKE 10 TO 12 MINUTES, OR UNTIL THE COOKIES ARE GOLDEN BROWN.
TURN OFF OVEN.

NINE
TAKE THE COOKIES FROM THE COOKIE SHEET WITH A SPATULA.
LET THEM COOL.

11. What do you mix in the bowl with the whole wheat flour?

(A) Soft butter
(B) Raisins
(C) Baking soda
(D) An egg

(E) I don't know.

12. What are the last things that you add to the dough?

(A) Salt and cinnamon
(B) Soft butter and honey
(C) Flour and liquid
(D) Raisins and granola

(E) I don't know.

13. What do you add to the butter and honey mixture?

    (A) Raisins and granola
    (B) An egg and some vanilla
    (C) Salt and flour
    (D) Baking soda and cinnamon

    (E) I don't know.

---

14. Where would you most likely find out what bread costs today at a supermarket?

    (A) magazine
    (B) daily newspaper
    (C) TV guide
    (D) dictionary

    (E) I don't know.

15. Where would you most likely find all the meanings of the word "bass"?

    (A) dictionary
    (B) newspaper
    (C) fishing magazine
    (D) radio

    (E) I don't know.

16. Where would you find the most information about "rabbits"?

    (A) encyclopedia
    (B) dictionary
    (C) television commercial
    (D) newspaper

    (E) I don't know.

17. "Once upon a time" is the way many fairy tales begin. This means that the story takes place:

    (A) Today
    (B) Yesterday
    (C) In the future
    (D) A long time ago

    (E) I don't know.

The story which follows has no real beginning and no real ending. Read it through completely before answering the questions which follow.

> She enjoys listening to its many different sounds. When a strong wind blows, she stands on the cliff. From there she can watch the great waves splash on the rocks below. Also, she likes to walk barefoot over the wet sands when the tide goes out. The sand feels so good between her toes. Sometimes the tide leaves strange things behind it on the beach. Often she sees many little sea creatures hurrying about the sand and rocks. Julie likes to save the colourful stones and shells she finds to put in her room.

18. Which sentence would make the best beginning to this story?

(A) Julie enjoys collecting things the sea leaves behind.
(B) Julie is a young girl.
(C) Julie likes listening to the wind.
(D) Julie loves everything about the sea.

(E) I don't know.

19. Which sentence would make the best ending to this story?

(A) They make her room look pretty.
(B) They remind her of the sea.
(C) With these things around her, Julie is reminded of her love of the sea.
(D) Julie will not like moving away from the sea.

(E) I don't know.

20. Which title best fits this story?

(A) Julie
(B) Julie and the Sea
(C) The Wind and the Sea
(D) Julie and Her Shells

(E) I don't know.

21. The rush hour traffic moved along at a snail's pace so there were many traffic jams.

What does the sentence mean?

(A) Snails caused a traffic jam.
(B) The cars were covered with snails.
(C) The traffic barely moved along.
(D) The traffic was rushing along the highway.

(E) I don't know.

READING:

Read the story and answer the questions which follow.

Luke Skywalker

Luke Skywalker lived on a farm with his aunt and uncle. But their farm wasn't on Earth. It was on a far-away planet. Luke and his relatives lived on the hot, dry planet of Tatooine. There was no water on the planet. Farmers had to get water from imported clouds.

Luke loved his uncle and aunt, but he had a dream. He wanted to leave the farm. He wanted to go to the Academy and learn to fly a starship. He dreamed of being the best star pilot in the galaxy.

22. What did Luke want to do at the Academy?

(A) Learn to be a better farmer
(B) Learn to get water from clouds
(C) Learn to be a star pilot
(D) Learn about his planet

(E) I don't know.

23. Luke lived with

(A) his parents
(B) his relatives
(C) his friends
(D) his brother and sister

(E) I don't know.

24. What does Tatooine look like?

(A) A desert
(B) A mountain
(C) A farm
(D) A forest

(E) I don't know.

25. Which of the following words rhymes with "planet"?

(A) granite
(B) airplane
(C) comet
(D) many

(E) I don't know.

26. How is the planet Tatooine like Earth?

(A) There are people who are star pilots.
(B) There are people who work on farms.
(C) There is no rain.
(D) There is a lot of rain.

(E) I don't know.

27. Which name best describes the story, "Luke Skywalker"?

(A) fantasy
(B) fairy tale
(C) article
(D) poem

(E) I don't know.

28. The boys peered at the stranger.

Peered means:

(A) laughed
(B) jumped
(C) stared
(D) smiled

(E) I don't know

29. "You are kidding," they cried in amazement.

Amazement means:

(A) surprise
(B) disappointment
(C) fun
(D) sadness

(E) I don't know.

30. Do you suppose this could be true?

Suppose means:

(A) think
(B) wish
(C) doubt
(D) hope

(E) I don't know.

31. Jan likes to go barefoot in the summer. It's fun to run through grass and sand. Hot blacktop is no fun though. Jan really screams when it burns her tender feet.

Something that is tender is:

(A) very hot
(B) covered by shoes
(C) soft
(D) tough

(E) I don't know.

STOP. DO NOT GO ON UNTIL YOU

ARE TOLD TO DO SO.

MATHEMATICS:

32. The 2 in 2645 means:

(A) two hundreds
(B) two thousands
(C) two ones
(D) two millions

(E) I don't know.

33. Counting by 10's, the next three numbers are:

780, 790, ___, ___, ___

(A) 791, 792, 793
(B) 720, 730, 740
(C) 800, 810, 820
(D) 800, 801, 802

(E) I don't know.

34. ADD:

$$\begin{array}{r} 56 \\ +\underline{37} \end{array}$$

(A) 19
(B) 83
(C) 93
(D) 94

(E) I don't know.

35. ADD:

$$\begin{array}{r} 429 \\ 35 \\ +\underline{531} \end{array}$$

(A) 985
(B) 995
(C) 9815
(D) 1025

(E) I don't know.

36. SUBTRACT: $\begin{array}{r} 86 \\ -\ \underline{22} \end{array}$

(A) 64
(B) 68
(C) 54
(D) 108

(E) I don't know.

37. MULTIPLY: $\begin{array}{r} 10 \\ \underline{\times\ 9} \end{array}$

(A) 9
(B) 19
(C) 90
(D) 900

(E) I don't know.

38. DIVIDE: $5\overline{)45}$

(A) 7
(B) 8
(C) 9
(D) 13

(E) I don't know.

39. Read the following series of numbers:

3, 6, 9, 12, 15, ___

Which number would come next?

(A) 16
(B) 18
(C) 20
(D) 22

(E) I don't know.

40. Funland opened on May 16. Jerry and Teresa were there one week later. On what date were they there?

- (A) May 17.
- (B) May 21.
- (C) May 22.
- (D) May 23.

- (E) I don't know.

41. Which one of the following statements is true?

- (A) $4 + 3 > 6$
- (B) $5 + 4 > 9$
- (C) $3 + 5 > 10$
- (D) $2 + 6 > 8$

- (E) I don't know.

42. Which one of the following is equal to .4?

- (A) $\frac{4}{5}$
- (B) $\frac{2}{5}$
- (C) $\frac{4}{100}$
- (D) $\frac{2}{10}$

- (E) I don't know.

43. 79= _______

- (A) 70 + 9
- (B) 7 + 9
- (C) 70 + 90
- (D) 709

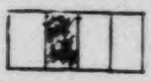
- (E) I don't know.

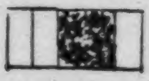
44. 8 tens and 5 ones = _______

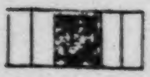
- (A) 8105
- (B) 805
- (C) 58
- (D) 85

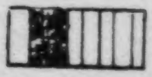
- (E) I don't know.

45. Which box is two-fifths $\left(\frac{2}{5}\right)$ shaded?

(A) 

(B) 

(C) 

(D) 

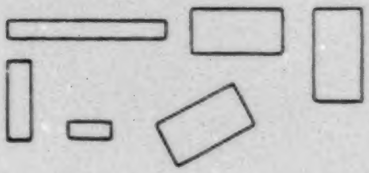
(E) I don't know.

46. A soup can is shaped most like a:

(A) sphere
(B) cube
(C) cylinder
(D) cone

(E) I don't know.

47. Each of these shapes is a:

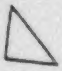


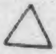
(A) rectangle
(B) triangle
(C) square
(D) line

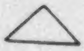
(E) I don't know.

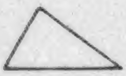
48. Triangles that are the same size and shape are congruent triangles.

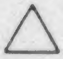
Which triangle is congruent to this triangle?



(A) 

(B) 

(C) 

(D) 

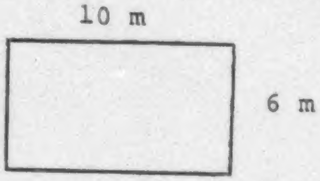
(E) I don't know.

49. Which says 3 dollars and 26 cents?

(A) $300.26
(B) $ 30.26
(C) $ 3.26
(D) $326.00

(E) I don't know.

50. What is the distance all the way around this rectangle?



(A) 16 m
(B) 32 m
(C) 36 m
(D) 60 m

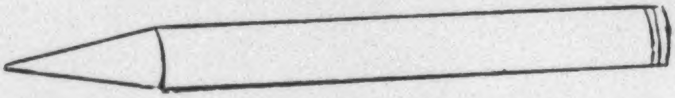
(E) I don't know.

51. The thermometer reads 30^0 C. It would be a good day to:

- (A) turn on the furnace
- (B) wear a sweater
- (C) wear shorts
- (D) stay in out of the cold

- (E) I don't know.

52. About how long is this crayon?



- (A) 1 centimetre
- (B) 10 centimetres
- (C) 1 metre
- (D) 10 metres

- (E) I don't know.

53. 5 cm is the same as how many millimetres?

- (A) 500
- (B) 1000
- (C) 50
- (D) 5000

- (E) I don't know.

54. Which of the metric units listed below is used to measure the amount of water in a pail?

- (A) the metre
- (B) the cubic metre
- (C) the centimetre
- (D) the litre

- (E) I don't know.

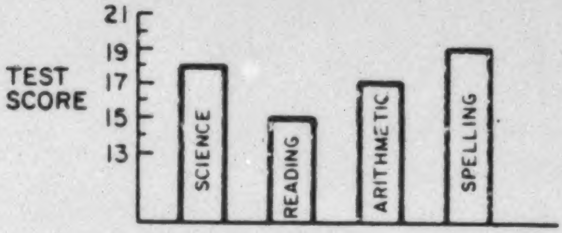
MATHEMATICS: (cont'd)

55. Leslie's test scores were:

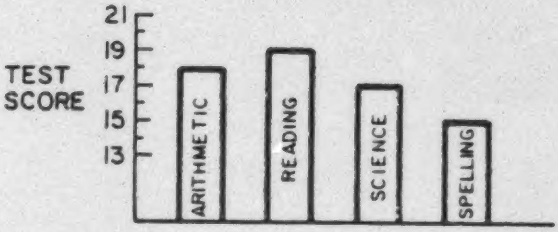
Arithmetic	18
Spelling	15
Science	17
Reading	19

Which graph shows Leslie's results?

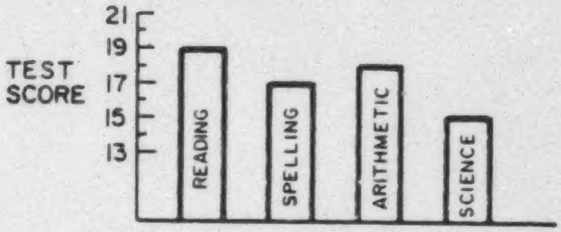
(A)



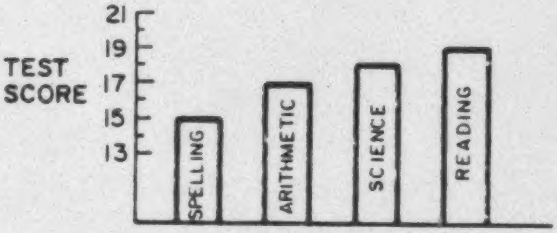
(B)



(C)

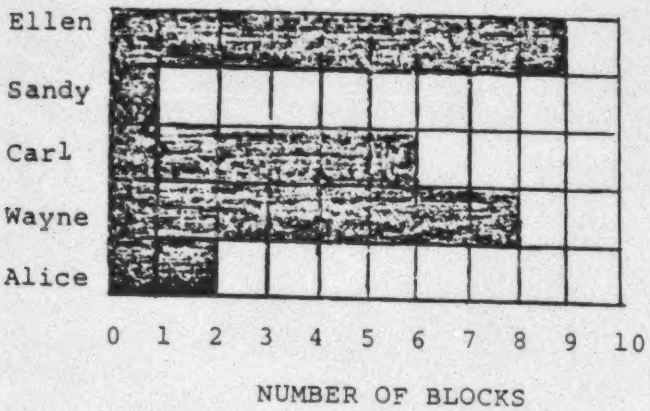


(D)



(E) I don't know.

56. Distance Between Home and School



How far away from school is Wayne's house?

(A) two blocks
(B) four blocks
(C) six blocks
(D) eight blocks

(E) I don't know.

OTTAWA ROMAN CATHOLIC SEPARATE SCHOOL BOARD

PROGRAM ASSESSMENT

1982

LANGUAGE ARTS: FRENCH - ENVIRONMENTAL STUDIES

DIRECTIONS

TO THE STUDENT

1. You will need a pencil and an eraser to complete this test.
2. If you need to do rough work, please do it right in this booklet.
3. Use your answer sheet for your final answers only.

EXAMPLE:

(99) How many apples would you have if your mother and your father each gave you 2 apples?

(A) two apples
(B) four apples
(C) six apples
(D) eight apples

(E) I don't know

EXAMPLE OF ANSWER SHEET

	A	B	C	D	E
98	0	0	0	0	0
99	0	●	0	0	0
100	0	0	0	0	0

LECTURE:

Lisez l'histoire et répondez aux questions suivantes.

Un jour à l'école

Quand la cloche sonne pour la première heure de cours, les élèves se rendent à leur premier cours à pieds, et ainsi commence chaque nouveau jour à l'école.

Notre classe a parfois beaucoup de devoirs que beaucoup d'élèves oublient de faire. Les professeurs sont fâchés quand les élèves ne font pas leurs devoirs ou quand ils oublient leurs livres. Souvent, les élèves oublient les règlements de l'école, et ils bavardent sans arrêt. Quand ils causent trop, les professeurs sont fâchés de nouveau.

Les élèves sont tristes à la pensée des examens qui arrivent parce que les examens sont très, très difficiles.

Quand la cloche sonne à trois heures, la classe est contente et très, très fatiguée!

Je complète les phrases en choisissant la bonne réponse.

1. Chaque nouveau jour à l'école commence __________.

(A) quand la cloche sonne
(B) quand les élèves arrivent
(C) avec la première heure
(D) quand les élèves sont prêts

(E) Je ne sais pas.

2. Les professeurs sont fâchés quand ________.

(A) notre classe a beaucoup de devoirs
(B) les élèves apportent leurs livres
(C) les élèves oublient de faire leurs devoirs
(D) notre classe a parfois beaucoup de devoirs

(E) Je ne sais pas.

3. Les élèves bavardent ________ et les professeurs sont fâchés encore.

(A) mal
(B) bien
(C) trop
(D) leurs devoirs

(E) Je ne sais pas.

4. Les élèves sont tristes________.

(A) à la pensée des examens
(B) parce que les professeurs sont fâchés
(C) parce qu'ils oublient leurs livres
(D) quand la cloche sonne à trois heures

(E) Je ne sais pas.

5. La classe est terminée ________.

(A) quand les examens sont très difficiles
(B) quand le soleil se couche
(C) quand la cloche sonne à trois heures
(D) quand la classe est contente

(E) Je ne sais pas.

6. Quel mot est bien séparé en syllabes?

(A) a/ssez
(B) as/sez
(C) ass/ez
(D) asse/z

(E) Je ne sais pas.

7. Quel mot est bien séparé en syllabes écrites?

(A) main/te/nant
(B) maint/en/ant
(C) main/ten/ant
(D) main/tenant

(E) Je ne sais pas.

EXPRESSION ECRITE:

8. Je choisis la phrase correcte.

(A) Je n'ai pas de moustache.
(B) je n'ai pas de moustache.
(C) je n'ai pas de moustache
(D) Je n'ai pas de moustache

(E) Je ne sais pas.

9. Je choisis le groupe de mots qui est une phrase.

(A) La fin de cette histoire.
(B) L'histoire est triste.
(C) Cette histoire et la fin.
(D) Est triste et heureuse.

(E) Je ne sais pas.

10. Je choisis la bonne forme du verbe.

Ce matin, il __________ mangé son petit déjeuner.

(A) est
(B) a
(C) ont
(D) aura

(E) Je ne sais pas.

11. Je choisis la bonne forme du verbe.

nous sommes
vous êtes
ils)
elles) ____________

(A) ont
(B) sont
(C) on
(D) son

(E) Je ne sais pas.

12. Je choisis le bon article.

Paul aime __________ hippopotame.

(A) le
(B) la
(C) l'
(D) les

(E) Je ne sais pas.

13. Je choisis le bon mot.

Je vais __________ musée.

(A) aux
(B) des
(C) au
(D) à le

(E) Je ne sais pas.

14. Je choisis le bon mot.

Nous arrivons __________ école.

(A) à l'
(B) aux
(C) des
(D) au

(E) Je ne sais pas.

15. Je choisis le bon adjectif.

Paul est un __________ jeune homme.

(A) beau
(B) bel
(C) beaux
(D) belles

(E) Je ne sais pas.

16. Je choisis le mot qui ne va pas avec les autres.

(A) lundi
(B) jeudi
(C) avril
(D) mercredi

(E) Je ne sais pas.

17. Je choisis le mot qui est antonyme de jeune.

(A) jaune
(B) vieux
(C) gosse
(D) enfant

(E) Je ne sais pas.

18. Je choisis le mot qui est synonyme de fatigué.

Marie est fatiguée.

(A) triste
(B) heureuse
(C) fâchée
(D) lasse

(E) Je ne sais pas.

Lisez l'histoire et répondez aux questions suivantes.

Je suis une girafe. Je suis très grande et ma tête est tout le temps dans les nuages. Ce n'est pas très plaisant parce que, à cette altitude, l'air est pollué. A cause de la fumée noire, j'éternue beaucoup. Quand il pleut je suis très heureuse parce que _________.

19. Je choisis l'expression pour faire la dernière phrase du texte.

(A) les nuages sont beaux
(B) je me lave dans la pluie
(C) la fumée noire est odorante
(D) je suis très grande

(E) Je ne sais pas.

20. Je choisis un bon titre pour l'histoire.

(A) Le cou de la girafe.
(B) La girafe.
(C) La tête dans les nuages.
(D) Les girafes et moi.

(E) Je ne sais pas.

21. Je complète la phrase en choisissant la bonne réponse.

La tête de la girafe __________.

(A) est très grande
(B) est dans les nuages
(C) a mal à la gorge
(D) aime l'air pollué

(E) Je ne sais pas.

ETUDES SOCIALES:

22. Dans quelle province se trouve Ottawa?

(A) Ontario
(B) Québec
(C) Manitoba
(D) Carleton

(E) Je ne sais pas.

23. Quelle province canadienne est la plus grande en étendue?

(A) Québec
(B) Colombie-Britannique
(C) Alberta
(D) Terre-Neuve

(E) Je ne sais pas.

24. Quelle province canadienne possède le plus de montagnes?

(A) Québec
(B) Colombie-Britannique
(C) Alberta
(D) Ontario

(E) Je ne sais pas.

25. Quelle voie maritime de la région d'Ottawa a été construite par l'homme?

(A) la rivière Gatineau
(B) le canal Rideau
(C) la rivière Rideau
(D) la rivière des Outaouais

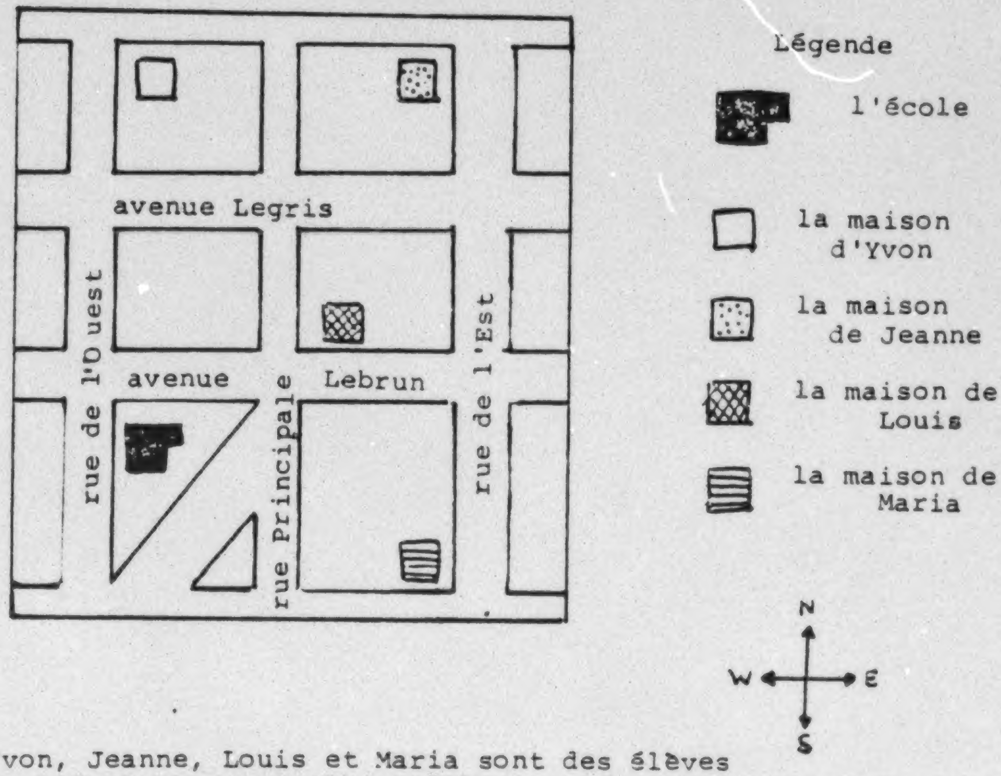
(E) Je ne sais pas.

26. Les Canadiens viennent de tous les coins du monde. La majeure partie des Canadiens sont d'origine __________.

(A) britannique et chinoise
(B) italienne et allemande
(C) française et allemande
(D) britannique et française

(E) Je ne sais pas.

Le voisinage de l'école Beausoleil


avenue Legris
rue de l'Ouest
avenue Lebrun
rue Principale
rue de l'Est
Légende
l'école
la maison d'Yvon
la maison de Jeanne
la maison de Louis
la maison de Maria
N
W
E
S

27. Yvon, Jeanne, Louis et Maria sont des élèves de l'école Beausoleil. L'élève qui demeure le plus près de l'école est ________.

(A) Yvon
(B) Louis
(C) Maria
(D) Jeanne

(E) Je ne sais pas.

28. L'élève qui demeure le plus loin de l'école est ________.

(A) Yvon
(B) Louis
(C) Maria
(D) Jeanne

(E) Je ne sais pas.

29. La seule maison qui est située au sud de l'avenue Lebrun est la maison __________.

(A) d'Yvon
(B) de Louis
(C) de Maria
(D) de Jeanne

(E) Je ne sais pas.

30. Dans quelle direction Jeanne marche-t-elle pour se rendre à la maison d'Yvon?

(A) nord
(B) ouest
(C) sud
(D) est

(E) Je ne sais pas.

31. Qu'est-ce qui serait le plus utile pour trouver la position de Vancouver (Canada) par rapport à Tokyo (Japon).

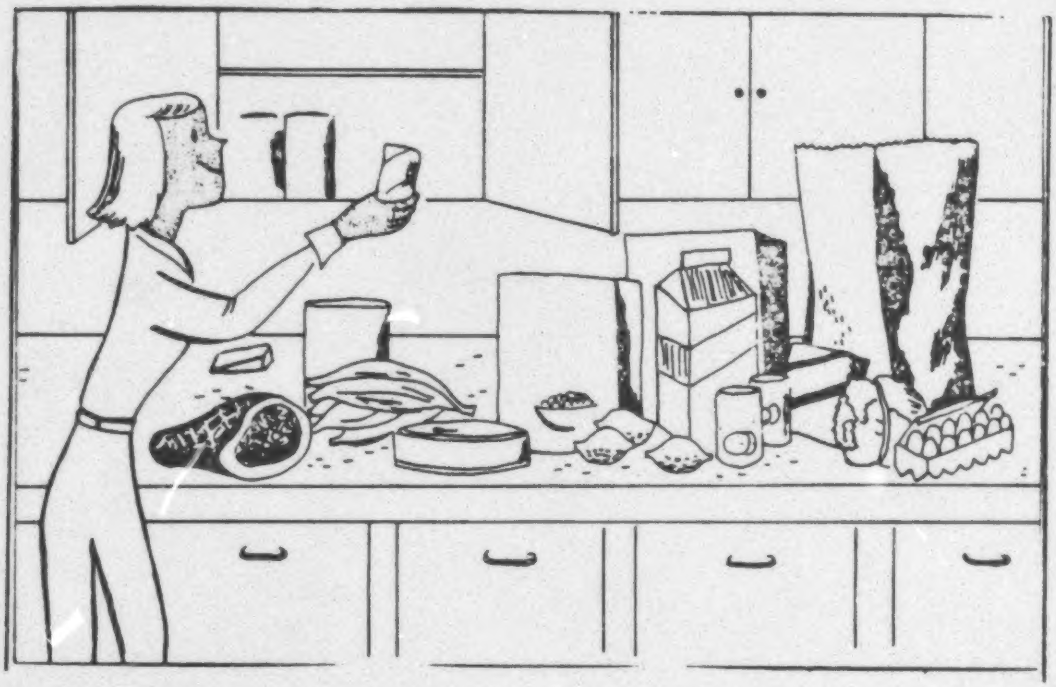
(A) une encyclopédie
(B) un globe terrestre
(C) un journal
(D) un dictionnaire

(E) Je ne sais pas.

32. Pourquoi les enfants se déguisent-ils à l'Halloween?

(A) parce que c'est la loi
(B) parce que c'est une tradition
(C) parce que c'est bon pour la santé
(D) à cause de la température

(E) Je ne sais pas.



Barbara revient de magasiner. Elle habite
une ville en Ontario. Elle range ses emplettes.

33. Quel produit ne peut pas venir d'une ferme canadienne?

(A) des oeufs
(B) de la laitue
(C) des bananes
(D) du jambon

(E) Je ne sais pas.

34. Quel produit vient probablement d'une ferme située près du magasin où Barbara l'a acheté.

(A) du lait
(B) des citrons
(C) des ananas
(D) du jus d'orange congelé

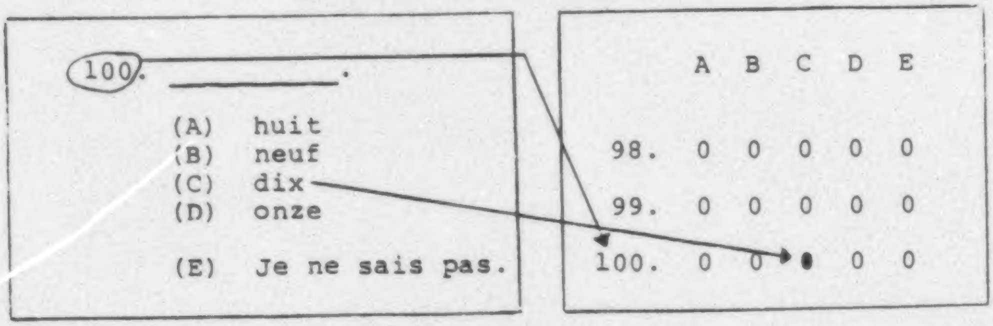
(E) Je ne sais pas.

STOP. DO NOT GO ON UNTIL

YOU ARE TOLD TO DO SO.

DIRECTIONS TO THE STUDENT:

Listen to the question. It will be read twice. Then listen as all the possible answers are read to you and look at your test paper. Select the answer which you think is best.



100. ________.

(A) huit
(B) neuf
(C) dix
(D) onze

(E) Je ne sais pas.

	A	B	C	D	E
98.	0	0	0	0	0
99.	0	0	0	0	0
100.	0	0	●	0	0

EXPRESSION ORALE:

35. ________.

(A) Jean
(B) Gigi
(C) Suzie
(D) Janine

(E) Je ne sais pas.

36. ________.

(A) lire
(B) étudier
(C) sortir
(D) manger

(E) Je ne sais pas.

37. ________.

(A) dans la nuit
(B) pendant toute la soirée
(C) avec le chat
(D) sur la table

(E) Je ne sais pas.

38. __________.

(A) des aventures
(B) un repas
(C) un chat
(D) un adversaire

(E) Je ne sais pas.

39. __________.

(A) nous sommes
(B) nos sons
(C) nos hommes
(D) nous serons

(E) Je ne sais pas.

40. __________.

(A) Je m'appelle Joseph.
(B) Merci beaucoup.
(C) Très bien, merci.
(D) Qui êtes-vous?

(E) Je ne sais pas.

41. __________.

(A) Les chiens courent après les lapins.
(B) Les chats attrapent les oiseaux.
(C) J'ai les chiens ou les chats.
(D) J'aime beaucoup mieux les chats.

(E) Je ne sais pas.

42. __________.

(A) Voici un bel oignon.
(B) Attendez ici s'il-vous-plaît.
(C) J'en ai plusieurs.
(D) J'ai très mal à la gorge.

(E) Je ne sais pas.

43. __________.

(A) Le vendredi, je déjeune chez Pierre.
(B) Vendredi est un jour de la semaine.
(C) C'est aujourd'hui vendredi.
(D) Mon chien s'appelle Vendredi.

(E) Je ne sais pas.

44. __________.

(A) neuf
(B) mal
(C) sac
(D) récit

(E) Je ne sais pas.

45. __________.

(A) image
(B) enfant
(C) éléphant
(D) invisible

(E) Je ne sais pas.

46. __________.

(A) beau
(B) boeufs
(C) soeur
(D) mûr

(E) Je ne sais pas.

SCIENCES:

47. La terre tourne une fois par année autour:

(A) du soleil
(B) de toutes les planètes
(C) de la lune
(D) de Mars

(E) Je ne sais pas.

48. On peut trouver des os de dinosaures vieux de plusieurs millions d'années dans __________.

(A) l'océan
(B) la glace d'une mare
(C) les troncs d'arbre
(D) les roches sous la terre

(E) Je ne sais pas.

49. L'électricité passe d'une centrale génératrice à votre maison par __________.

(A) une rivière
(B) un transformateur
(C) des fils
(D) des fusibles

(E) Je ne sais pas.

50. Les éclairs sont causés par __________.

(A) le tonnerre
(B) les courants électriques
(C) les étoiles filantes
(D) les masses d'air

(E) Je ne sais pas.

51. Voici deux contenants d'eau sur une cuisinière.

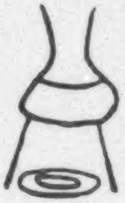


Illustration 1

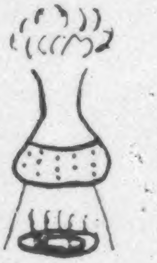


Illustration 2

Quelle est la meilleure façon de savoir qu'il y a eu un changement?

- (A) L'eau bout dans la deuxième illustration.
- (B) L'eau se réchauffe quand le feu est allumé.
- (C) L'eau ne bout pas dans la première illustration.
- (D) L'eau ne bout pas dans la première illustration mais bout dans la deuxième.

- (E) Je ne sais pas.

52. Des enfants essayaient de trouver laquelle de trois ampoules était la plus brillante. Quelle réponse est la meilleure pour nous aider à résoudre la problème?

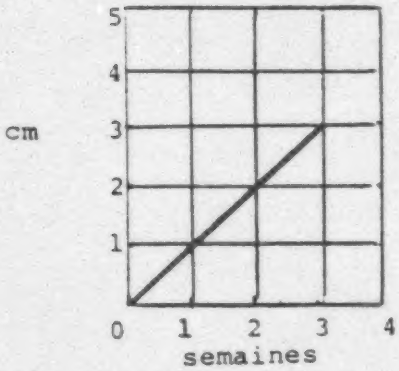
- (A) Une ampoule me paraît plus brillante que les autres donc je connais la réponse.
- (B) Les ampoules ont l'air aussi brillantes les unes que les autres donc il n'y a pas de réponse.
- (C) Si nous avions un instrument pour mesurer l'intensité de la lumière, cela nous aiderait.
- (D) Votons! Chaque personne vote pour l'ampoule qui lui paraît la plus brillante.

- (E) Je ne sais pas.

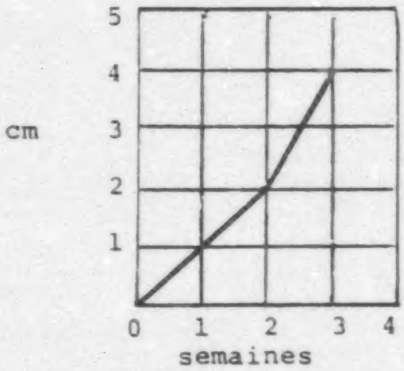
53. Une plante pousse de cette façon: la première semaine, elle mesure 1 centimètre; la deuxième semaine, elle mesure 2 centimètres; la troisième semaine, elle mesure 4 centimètres.

Quel diagramme nous montre cette croissance?

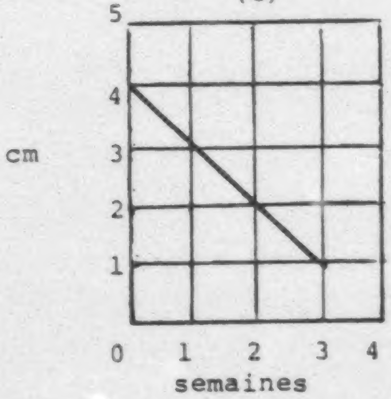
(A)



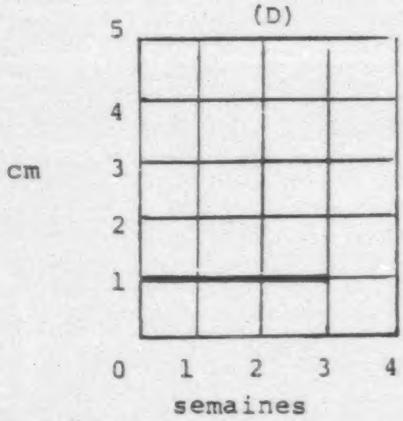
(B)



(C)

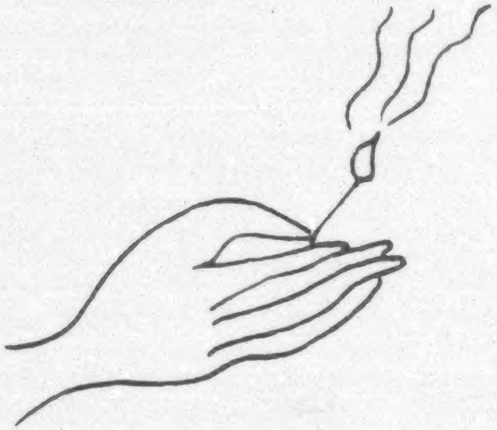


(D)



(A) diagramme A
(B) diagramme B
(C) diagramme C
(D) diagramme D

(E) Je ne sais pas.



54. Regardez l'illustration.

Qu'est-ce qui vous dit tout ce que vous pouvez voir dans cette illustration et rien d'autre.

(A) Une main tient une allumette qui brûle et fait de la fumée.
(B) Quelqu'un vient tout juste d'allumer une allumette.
(C) Une main tient une allumette qui brûle.
(D) La personne qui tient une allumette va se faire brûler.

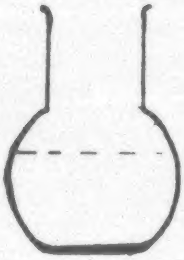
(E) Je ne sais pas.

55. David fait pousser deux plants de tomates. Il sait que __________.

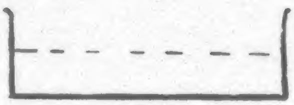
(A) les deux plantes vont avoir le même nombre de tomates
(B) les deux plantes vont pousser à la même hauteur
(C) les deux plantes vont se ressembler exactement
(D) les plantes vont se ressembler mais la hauteur et le nombre de fruits seront probablement différents

(E) Je ne sais pas.

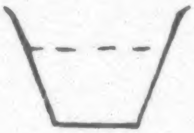
56. On verse un litre d'eau dans chacun des contenants ci-dessous. Les contenants ne sont pas couverts et on les laisse dans une pièce tiède. Après une journée, dans quel contenant y aura-t-il le moins d'eau?



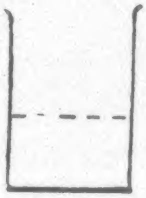
(A)



(B)



(C)



(D)

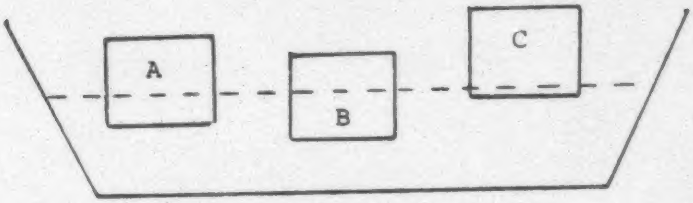
- (A) contenant A
- (B) contenant B
- (C) contenant C
- (D) contenant D

- (E) Je ne sais pas.

57. Comment arrive-t-on à énoncer des lois scientifiques comme celle de la loi de la chute des corps?

- (A) Les hommes de science les passent au vote.
- (B) C'est la police qui les fait.
- (C) C'est le gouvernement qui en décide.
- (D) Les lois sont formulées après de nombreuses expériences.

- (E) Je ne sais pas.



58. Ces trois objets massifs sont de la même grosseur. S'ils flottent, comme nous le voyons, lequel de ces objets pèse le plus?

(A) objet A
(B) objet B
(C) objet C
(D) ils ont tous le même poids

(E) Je ne sais pas.

APPENDIX C

Student & Teacher Questionnaires

Language Arts: French

Transcript of Questions 36-46

TAPE FOR FINAL FORM.

EXAMPLE:

Numéro 100. "Un homme a deux mains. Il a combien de doigts?" (Read question twice)

(A) huit
(B) neuf
(C) dix (Read once)
(D) onze

(E) Je ne sais pas.

Ecoutez l'histoire et répondez aux questions suivantes. (Read twice)

La Petite Souris (Read Story)

J'ai une petite souris. Elle s'appelle Gigi. Quand je suis à l'école, ma souris dort. Et quand je rentre de l'école, Gigi dort toujours: elle dort pendant toute la soirée. Mais la nuit! Gigi se réveille et commence à parler. Elle désire sortir: elle va chercher des aventures dans la nuit! Souris fais attention aux chats!

Ecoutez bien, je vais relire l'histoire.
(Read story again)

Ecoutez chaque question et choisissez votre réponse. (Read twice)

Numéro 35. La souris s'appelle __________. (Read twice)

(A) Jean
(B) Gigi
(C) Suzie (Read once)
(D) Janine

(E) Je ne sais pas.

Numéro 36. La souris se réveille et elle veut ________.
(Read twice)

(A) lire
(B) étudier
(C) sortir (Read once)
(D) manger
(E) Je ne sais pas.

Numéro 37. La souris dort ________. (Read twice)

(A) dans la nuit
(B) pendant toute la soirée
(C) avec le chat (Read once)
(D) sur la table
(E) Je ne sais pas.

Numéro 38. La souris va chercher ________. (Read twice)

(A) des aventures
(B) un repas (Read once)
(C) un chat
(D) un adversaire
(E) Je ne sais pas.

Numéro 39. Choisissez l'expression pareille à l'expression suivante:

(Read twice)

Nous sommes

(A) nous sommes
(B) nos sons
(C) nos hommes (Read once)
(D) nous serons
(E) Je ne sais pas.

Numéro 40. Choisissez la bonne réponse à la question suivante:

(Read twice)

Bonjour, comment ça va?

(A) Je m'appelle Joseph.
(B) Merci beaucoup.
(C) Très bien, merci.
(D) Qui êtes-vous?
(E) Je ne sais pas.

Numéro 41. Choisissez la bonne réponse à la question suivante:

(Read twice)

Aimez-vous mieux les chiens ou les chats?

(A) Les chiens courent après les lapins.
(B) Les chats attrapent les oiseaux.
(C) J'ai les chiens ou les chats.
(D) J'aime beaucoup mieux les chats.
(E) Je ne sais pas.

(Read onc

Numéro 42. Choisissez la bonne réponse à la question suivante:

(Read twice)

Bonjour Monsieur. Avez-vous des bonbons?

(A) Voici un bel oignon.
(B) Attendez ici, s'il-vous-plaît.
(C) J'en ai plusieurs.
(D) J'ai très mal à la gorge.
(E) Je ne sais pas.

(Read once

Numéro 43. Choisissez la bonne réponse à la question suivante:

(Read twice)

Que faites-vous le vendredi?

(A) Le vendredi, je déjeune chez Pierre.
(B) Vendredi est un jour de la semaine.
(C) C'est aujourd'hui vendredi.
(D) Mon chien s'appelle Vendredi.
(E) Je ne sais pas.

(Read onc

Numéro 44. Choisissez le mot qui a une lettre qu'on ne prononce pas.

(Read twice)

(A) neuf
(B) mal
(C) sac
(D) récit
(E) Je ne sais pas.

(Read onc

Numéro 45. Choisissez le mot qui a le même son que im dans impossible. (Read twice)

(A) image
(B) enfant
(C) éléphant
(D) invisible
(E) Je ne sais pas.

(Read once)

Numéro 46. Choisissez le mot qui a le même son que e (eu) dans heure. (Read twice)

(A) beau
(B) boeufs
(C) soeur
(D) mûr
(E) Je ne sais pas.

(Read once)

APPENDIX D

Recording Form for Performance

TEACHER QUESTIONNAIRE

1. There are five subjects being examined in this study. How would you rate the value of the teacher's resource material available to you for each of these subjects? (Check only for the subjects you teach.)

	EXCELLENT	GOOD	ADEQUATE	INADEQUATE
- English language arts				
- French language arts				
- Mathematics				
- Science				
- Social Studies				

2. On your last full teaching day (whether it was "typical" or not), how much time was spent on each of the subjects you teach? Answer only for the first class you met that day.

	TIME SPENT: LAST SCHOOL DAY (IN MINUTES)					
	0-10	11-20	21-30	31-40	41-50	more than 50
- Language arts (English)						
- Mathematics						
- Science						
- Social Studies						
- Visual Arts						
- Music						
- Physical Education						
- Family life						
- Language arts (French)						
- Religion						

3. About how often do you and your counterpart in the other half of the program meet?

___ regularly and formally

___ regularly and informally

___ irregularly and formally

___ irregularly and informally

STUDENT BACKGROUND QUESTIONS

111. How many years (including this one) have you attended this school?

- (A) This is my first year here
- (B) Two years
- (C) Three years
- (D) Four years
- (E) More than four years

112. If you have attended other schools, where were they?

- (A) I have NOT attended other schools
- (B) In Ottawa R.C. Separate Board: 50/50 program
- (C) In Ottawa R.C. Separate Board: NOT in 50/50 program
- (D) Elsewhere in Ontario
- (E) Outside Ontario

113. Is English the language usually spoken in your home?

- (A) Yes
- (B) No

114. Was English the language you spoke most often when you started school?

- (A) Yes
- (B) No

115. Was French the language you spoke most often when you started school?

- (A) Yes
- (B) No

APPENDIX E

Transcripts of Performances

by Three Students

CONVERSATION RECORD FORM

I. STUDENT BACKGROUND:

NAME ____________________ SCHOOL ____________________

HOW MANY YEARS (INCLUDING THIS ONE) HAVE YOU ATTENDED THIS SCHOOL? 1 2 3 4 5or more

IF YOU ATTENDED OTHER SCHOOLS, DID THEY HAVE A 50/50 PROGRAM? YES NO

WAS ENGLISH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? YES NO

WAS FRENCH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? YES NO

II. ASSESSMENT INFORMATION:

1. HOW MANY QUESTIONS WERE ASKED (EN FRANCAIS) AS PART OF THE GAME?

0 - 5 ____
6 - 10 ____
11 - 15 ____
16 - 20 ____
more than 20 ____

2. EVALUATE THE QUALITY OF THE QUESTIONS.

A single form with few variations ____
Some variation in form ____
Many elaborated questions ____
Fluent style, at ease with language ____

3. EVALUATE THE STUDENT'S LISTENING COMPREHENSION.

Required clarification; often misunderstood ____
Required some clarification for understanding ____
Understood most responses to questions ____
Understood all responses to questions ____

4. EVALUATE THE STUDENT IN TERMS OF FLUENCY.

No facility in the language ____
Beginning to use the language ____
Uses language to accomplish simple tasks ____
Easily adapts to language use ____

5. EVALUATE THE STUDENT IN TERMS OF PRONUNCIATION/ENUNCIATION

Unclear words and poor intonation ____
Words mostly clear, acceptable intonation ____
Words quite clear, intonation good ____
Clear precise natural accent ____

CONVERSATION #1

Subject in Bilingual Programme since September 1981, therefore in programme for six months.
Prior experience, core programme of 30 minutes daily in Montreal.

legend: P = Psychometrician
S = Subject

P - Bon, commence à me poser des questions maintenant.

S - Est-ce qui il y a une auto dedans?

P - Non, il n'y a pas une auto dedans.

S - Est-ce qu'il y a un ..... un jeu dedans?

P - Oui, il y a un jeu dedans. Est-ce que tu veux brasser la boîte.. pour essayer de deviner? Brasse-là.

S - Est-ce qui il y a..est-ce que c'est un jigsaw puzzle?

P - Mais oui, comment tu savais. Ha! ha! ha! Tu as deviné?

S - Oui, j'ai deviné.

P - Maintenant..euh..dis-moi ce que tu penses qu'il y a sur le jigsaw puzzle. Dis-moi d'abord, c'est quoi en français un jigsaw puzzle?

S - Un jigsaw puzzle c'est un jeu de.....quand tu fais une puzzle (P-Oui) tu fais une puzzle de quelquechose.

P - Mmm

S - Comme une puzzle de..de Snoopy!

P - Tu parles très bien. Celui-là c'est pas un Snoopy. Mais, ce puzzle, il est fait de quoi?

S - Il est fait de papier?

P - Oui. Et puis qu'est-ce qu'il a? Est-ce qu'il est tout ensemble comme ça?

S - Non

P - Il y a ...

S - des..morceaux de..papier?

P - Oui. Puis qu'est-ce que tu fais avec les morceaux de papier?

S - Tu.....fais un puzzle.

P - Oui

CONVERSATION RECORD FORM

I. STUDENT BACKGROUND:

NAME L SCHOOL ____________

HOW MANY YEARS (INCLUDING THIS ONE) HAVE YOU ATTENDED THIS SCHOOL? [✓ 1] 2 3 4 5or more

IF YOU ATTENDED OTHER SCHOOLS, DID THEY HAVE A 50/50 PROGRAM? YES [✓ NO]

WAS ENGLISH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? [✓ YES] NO

WAS FRENCH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? YES [✓ NO]

II. ASSESSMENT INFORMATION:

1. HOW MANY QUESTIONS WERE ASKED (EN FRANCAIS) AS PART OF THE GAME?

0 - 5	✓
6 - 10	
11 - 15	
16 - 20	
more than 20	

2. EVALUATE THE QUALITY OF THE QUESTIONS.

A single form with few variations	✓
Some variation in form	
Many elaborated questions	
Fluent style, at ease with language	

3. EVALUATE THE STUDENT'S LISTENING COMPREHENSION.

Required clarification; often misunderstood	
Required some clarification for understanding	✓
Understood most responses to questions	
Understood all responses to questions	

4. EVALUATE THE STUDENT IN TERMS OF FLUENCY.

No facility in the language	✓
Beginning to use the language	
Uses language to accomplish simple tasks	
Easily adapts to language use	

5. EVALUATE THE STUDENT IN TERMS OF PRONUNCIATION/ENUNCIATION

Unclear words and poor intonation	
Words mostly clear, acceptable intonation	✓
Words quite clear, intonation good	
Clear precise natural accent	

S - Et tu.....et tu fais ... PAUSE...

P - Qu'est-ce que tu fais avec les parties?

S - Oui tu fais avec les parties.

P - Qu'est-ce que tu fais?

S - Tu fais.....assembler?

P - C'est ça, tu fais assembler les parties. C'est très bien. Maintenant ce n'est pas Snoopy. Devine encore?

S - Est-ce que c'est Charlie Brown?

P - Non, ce n'est pas une personne.

S - Est-ce que c'est un chat?

P - Non, ce n'est pas un animal.

S - Est-ce que c'est un ... PAUSE...

P - C'est quelquechose..euh..dans lequel..euh.. tu montes quand tu voyages.

S - Tu montes dans l'avion?

P - Non. Mais c'est quelquechose dans ce genre là.

S - C'est hélécopter?

P - Non, continue.

S- Une balloone?

P - Non, continue.

S - ...PAUSE...

P - Ce n'est pas pour aller dans les airs et ce ce n'est pas pour aller sur la terre.

S - Monte dans le rocket?

P - Non il y a une autre partie du monde sur laquelle tu voyages qui n'est pas dans les airs, qui n'est pas sur la terre, mais.....

S - Une aumobile?

P - Non. Lorsque tu voyages comme cela.

S - Dans le, dans un bateau?

P - Voilà, c'est un bateau. Ouvre la boîte maintenant. Je crois que c'est un bateau. C'est quelle sorte de bateau?

S - C'est une bateau...de voyage des personnes.

P - Oui, c'est ça. Qu'est-ce qu'il a de particulier?

S - ... PAUSE...

P - Comment est-ce que tu sais que c'est pour des personnes?

S - Parce qu'il y a beaucoup de fenêtres.

P - Oui, beaucoup de cabines, hein, beaucoup de fenêtres, il y a beaucoup de cabines. Qu'est-ce qui semble y avoir en avant?

S - Là? C'est une fleuve? Un genre fleuve.

P - Une fleuve, genre..... c'est très bien. Maintenant je vais te poser quelques questions. mm Est-ce que tu habites près d'ici?

S - Oui j'habite près d'ici.

P - Et comment viens-tu à l'école le matin?

S - Je prends l'autobus.

P - Ah, bon! Est-ce que tu attends longtemps pour l'autobus?

S - Oui!

P - Ah, quelquefois..Et mm. Est-ce que ça te plaît l'hiver?

S - Des fois, moi je..je l'aime.

P - Tu aimes ça. Pourquoi est-ce que tu aimes l'hiver?

S - Je n'aime pas l'hiver.

P - Tu n'aimes pas l'hiver.. Parce qu'il fait trop froid? Et la neige, tu n'aimes pas la neige?

S - Je l'aime la neige.

P - Qu'est-ce que tu fais dans la neige?

S - Je fais de des sculpture.

P - Mais, oui

S - Et un slide.

P - Onh...! As-tu vu les .euh..les sculptures hier... sur le lac Dow?

S - Non, on a patiné à Dow's lake avec la classe.

P - Oh! oh!

S - avec le whole school.

P - Hier?

S - Non

P - Samedi?..hm..Quand?

S - ..hm...PAUSE...

P - Pendant la semaine?

S - Mardi

P - Mardi, mardi, la... Comment dis-tu, how do you say last Tuesday?

S - hm, l'an passé.

P - Mardi.....

S - l'an passé.

P - passé mardi passé..... l'an passé, last year. Mardi passé, last Tuesday. Très bien. Tu aimes ça venir à l'école (name of school).

S - Oui

P - As-tu laisser bien des amis à Montréal?

S - Oui

P - Ah! Tu les vois quelquefois.

S - Oui

P - Quand?

S - Quand j'y va à Montréal avec mon papa.

P - Est-ce que tu vas souvent à Montréal?

S - Non

P - Non, quand?

S - Quand mon papa va à...il travaille dans Montréal.

P - Ah! Il travaille encore à Montréal ton papa?

S - Et ici.

P - Ah! Les deux. Bien. As-tu des frères et des soeurs?

S - Oui, un frère, qui est dans troisième année et un soeur qui est dans sixième.

P - Et puis, est-ce qu'ils aiment être là?

S - Oui ils aiment être là.

P - Plus que toi peut-être.

S - Oui

P - Ha! ha! ha! Tu vas te faire des amis, peut être.

S - Oui, j'a des amis.

P - Tu as des amis? C'est bien. Qu'est-ce que tu fais avec tes amis, le samedi?

S - J'n c'est pas avec les amis...Ce n'est pas à la maison, c'est à l'école les amis.

P - Tu n'as pas d'amis près de la maison encore. Ah! Tu as des amis à l'école.

S - Non.

P - Est-ce que tu habites en apartement?

S - Oui.

P - Oui. Est-ce que tu aimes ça des schtroumps comme ça?

S - Oui, je aime les schtroumpfs.

P - En as-tu à toi?

S - Ma soeur a.

P - Oui, et comment ils sont-ils?

S - Sont petits et bleus.

P - Sont petits..ha! ha! ils sont drôles hein! Pourquoi est-ce qu'ils sont drôles?

S - Parce qu'ils font beaucoup de drôles choses.

P - Oui. Celui-là sur l'image, qu'est-ce qu'il fait?

S - Il donne la fleur à Schtroumpfette.

P - Comment sais-tu que c'est une schtroumpfette?

S - Parce que'il a des cheveux jaunes et des longs cheveux et il porte une dress.

P - une robe.

S - une robe.

P - porte une robe hein! Alors il a l'air de bien l'aimer hein! Je pense que c'est tout, on va rapprocher l'appareil. Tu veux entendre ta voix, maintenant sur la bande. Est-ce que tu as déjà parler au micro?

S - Oui

P - D'accord. Mais tu n'as jamais parlé en français.

S - J'parle français à la maison.

P - Bien sûr, tu parles avec maman, papa?

S - Mon père.

P - Oui, il est content que tu parles français?

S - Oui.

P - Et puis, ton frère et ta soeur est-ce qu'ils parlent français?

S - Oui.

P - Oui, c'est bien ça. Bon, on s'écoute maintenant?

S - hmm

CONVERSATION RECORD FORM

I. STUDENT BACKGROUND:

NAME 2. SCHOOL ____________

HOW MANY YEARS (INCLUDING THIS ONE) HAVE YOU ATTENDED THIS SCHOOL? 1 [✓ 2] 3 4 5or more

IF YOU ATTENDED OTHER SCHOOLS, DID THEY HAVE A 50/50 PROGRAM? [✓ YES] NO

WAS ENGLISH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? [✓ YES] NO

WAS FRENCH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? YES NO

II. ASSESSMENT INFORMATION:

1. HOW MANY QUESTIONS WERE ASKED (EN FRANCAIS) AS PART OF THE GAME?

0 - 5 ✓
6 - 10 ___
11 - 15 ___
16 - 20 ___
more than 20 ___

2. EVALUATE THE QUALITY OF THE QUESTIONS.

A single form with few variations ✓
Some variation in form ___
Many elaborated questions ___
Fluent style, at ease with language ___

3. EVALUATE THE STUDENT'S LISTENING COMPREHENSION.

Required clarification; often misunderstood ✓
Required some clarification for understanding ___
Understood most responses to questions ___
Understood all responses to questions ___

4. EVALUATE THE STUDENT IN TERMS OF FLUENCY.

No facility in the language ✓
Beginning to use the language ___
Uses language to accomplish simple tasks ___
Easily adapts to language use ___

5. EVALUATE THE STUDENT IN TERMS OF PRONUNCIATION/ENUNCIATION

Unclear words and poor intonation ✓
Words mostly clear, acceptable intonation ___
Words quite clear, intonation good ___
Clear precise natural accent ___

CONVERSATION #2

Subject originally from Laos

Legend: P = Psychometrician

S = Subject

P - Commence chère, pose-moi des questions?

S - ...PAUSE... E-ee Ce ee ce petit?

P - C'est petit et c'est petit comme ça.

S - ...PAUSE... picture?

P - Non, ce n'est pas une image.

S - ...PAUSE...

P - C'est pour mm couper.

S - ...PAUSE...

P - Demande-moi la couleur?

S - E,e,e.....bleu.

P - Mmm..., oui c'est bleu presque violet, bleu comme ça.

S - C'est rouge.

P - Un peu de rouge un petit peu de rouge. ...PAUSE... c'est en .....

S - Papier

P - C'est en papier. Et c'est tout?

S - a,sse.....le livre.

P - Non, ce n'est pas un livre, non quelquechose petit, il est rond..., comme ça, mais on peut l'ouvrir.

S - ...PAUSE...

P - Qu'est-ce que tu portes quand il pleut?

S - euh le palapluie.

P - C'est un parapluie. Qu'est-ce qu'un parapluie?

S - E,e,e.....

P - Tiens vois-tu?

S - Oui.

P - Ha! Ha! Ha! ... c'est pour toi.

S - Merci.

P - Je vais te poser quelques questions encore. Quel âge as-tu, name of subject?

S - e,e,e...douze.

P - Douze ans et quand ton anniversaire?

S - e,e,e,... ... PAUSE... aut... 4 fois ...

P - Le 4 août...mm...le 4 août bien! Et puis...mm...est-ce que tu as des frères?

S - Oui.

P - Combien?

S - e,e,e...trois.

P - Trois frères. As-tu des soeurs?

S - Oui.

P - Et mm... est-ce que tu habites prês d'ici? Prês ou loin?

S - Prês.

P - Comment viens-tu à l'école le matin?

S - e,e,e... ...PAUSE...

P - Est-ce que tu viens en autobus?

S - Oui.

P - Tu viens en autobus...hmm... Et puis hmm...est-ce que tu aimes l'hiver? La neige?

S - Oui.

P - Oui, qu'est-ce que tu fais?

S - Je fais la boule.

P - Des boules de neige, très bien... hmm... Est-ce qu'il y a longtemps que tu es au Canada?

S - Oui.

P - Un an, deux ans,

S - Mm..., trois.

P - trois ans, trois ans très bien...mm..maintenant est-ce que tu as des jeux comme ça, comme des schtroumpfs, et des oursons et des poupées. As-tu des poupées?

S - Oui.

P - Laquelle est-ce que tu aimes?

S - Le teddy bear.

P - Ah, le teddy bear, un ourson comme...mm...il s'appelle...mm... Paddington n'est-ce pas. C'est Paddington le petit ourson.

S - Oui.

P - Et puis qu'est-ce que tu fais le samedi quand tu as congé, le samedi?

S - Je va avec mon papa et mon maman (P-Oui) et mon soeur (P-Oui) je va ... Je va le cui cuisin (P-Oui) maison.

P - Oui à la maison de ta cousine hein!... de tes cousins. Bien! Et puis

S - Oui.

P - Qu'est-ce que tu fais pour maman?

S - ...Je fais em..... je fais em.... clean

P - Je nettoies...

S - Je nettoie le...le tapis.

P - Le tapis très très bien. Tu laves la vaiselle quelquefois? Est-ce que tu laves la vaisselle?

S - Oui.

P - Oui, bon. Qu'est-ce que tu aimes manger pour ton petit déjeuner?

S - e,e,e,... ...PAUSE...

P - Des céréales, du jus?

S - pense que c'est le jus.

P - Du jus?

S - Oui.

P - Bon alors maintenant je vais de dire au revoir et je vais te demander (name of Subject) de demander à (name of next subject) de venir me voir. Merci beaucoup. Au revoir.

S - Au revoir.

CONVERSATION RECORD FORM

I. STUDENT BACKGROUND:

NAME 3 SCHOOL ____________

HOW MANY YEARS (INCLUDING THIS ONE) HAVE YOU ATTENDED THIS SCHOOL? 1 2 [✓ 3] 4 5or more

IF YOU ATTENDED OTHER SCHOOLS, DID THEY HAVE A 50/50 PROGRAM? YES [✓ NO]

WAS ENGLISH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? [✓ YES] NO

WAS FRENCH THE LANGUAGE YOU SPOKE MOST OFTEN WHEN YOU STARTED SCHOOL? YES [✓ NO]

II. ASSESSMENT INFORMATION:

1. HOW MANY QUESTIONS WERE ASKED (EN FRANCAIS) AS PART OF THE GAME?

0 - 5
6 - 10
[✓ 11 - 15]
16 - 20
more than 20

2. EVALUATE THE QUALITY OF THE QUESTIONS.

A single form with few variations
Some variation in form
[✓ Many elaborated questions]
Fluent style, at ease with language

3. EVALUATE THE STUDENT'S LISTENING COMPREHENSION.

Required clarification; often misunderstood
Required some clarification for understanding
Understood most responses to questions
[✓ Understood all responses to questions]

4. EVALUATE THE STUDENT IN TERMS OF FLUENCY.

No facility in the language
Beginning to use the language
[✓ Uses language to accomplish simple tasks]
Easily adapts to language use

5. EVALUATE THE STUDENT IN TERMS OF PRONUNCIATION/ENUNCIATION

Unclear words and poor intonation
Words mostly clear, acceptable intonation
[✓ Words quite clear, intonation good]
Clear precise natural accent

CONVERSATION #3

Subject in bilingual programme for 3 years. No previous French.

Legend: P - Psychometrician

S - Subject

S - Est-ce que c'est...c'est un chose blanc?

P - No, c'est n'est pas une chose blanche. C'est...deux choses.

S - Est-ce que c'est jaune?

P - Dans les deux choses, il y a toutes sortes de couleurs... blanc, rouge, noir...beaucoup de couleurs.

S - Est-ce c'est des chose pour jouer?

P - Toutes les deux sont des choses pour jouer.

S - Est-ce que c'est rond?

P - Il y en a un qui est rond, parce que c'est une forme comme une tête.

S - Est-ce que c'est une est carrée?

P - Uh... l'autre est rectangulaire. C'est un paquet... d'objets pour jouer.

S - Est-ce que il y a de ch...est-ce que le chose dedans le paquet est grand?

P - Non, c'est tout petit. C'est comme des petits, petits, petits, batons comme ça. Beaucoup de petits batons.

S - Est-ce que le chose dans le...dans le paquet est...de... batons...pour le...pour le...pour le ballet de...pour glacer?

P - Pour...?

S - Pour de ball de glace?

P - Je ne comprends pas ça. Essaye encore. Essaye... (unintelligible).

S - Uh...est-ce que c'est...c'est des batons comme un ovale?

P - Chaque petit baton est rond, et c'est un jeu. On prend le paquet comme ça...(unintelligible)...ah...qu'est que c'est ça?

S - Mmmm...C'est...en anglais, c'est le Pick Up Sticks.

P - C'est ça! En français, ce sont des batonets.

S - Des batonets.

P - Le jeu des batonets. Pour...comment est-ce qu'on joue le jeu des batonets?

S - On prend le baton, puis, on le laisse tomber, et on prend, un parure et, on ne laisse pas les autres? bougent.

P - C'est ça. On ne laisse pas bouger les autres. Très bien ça.

(End of game portion of student's conversation.)

Interpretation Procedures

THE INTERPRETATION PROCESS

AIM: The goal of the interpretation process is to establish standards of performance. Because the items used in the assessment are referenced directly to the curriculum, it is clearly relevant to ask what various people would consider satisfactory achievement.

PROCESS: Each panelist completes the items before coming to the first large-group meeting. In addition, each panelist is asked to provide for each item he or she has completed two percentages called p-values. The lower p-value represents that person's region of "acceptable" performance: at least that percentage of students should get that item correct. The upper p-value represents that person's "satisfactory" performance: if that percentage of students got that item correct, the achievement would be very good. Obviously, the region between these two estimates represents that person's expectation if things are going well.

At the first large-group meeting, the panelist is presented with the item results for the board. The items are arranged, not in the order that they appeared in the booklets, but in a more curriculum-centred way: by domains of like objectives. For example, all items representing basic mathematical operations may be grouped together, with their obtained p-values. Now the panelist can compare his own rankings with those actually obtained

.../2

by the children. He is then given the task of rating the actual performance of the children on each item on a five-point scale:

1 - Strong
2 - Very satisfactory
3 - Satisfactory
4 - Marginal
5 - Weak

After this has been completed, the panelists divide into small groups. The task here is to take the items making up a domain, examine their ratings of each item, and come up with an overall ranking on achievement on that domain, using the same five-point scale. (It is conceivable that panelists may differ among themselves about individual items, about individual ratings of items, and about what satisfactory achievement on a domain should be. The goal is to come to some consensus, to listen and evaluate each other's opinions while expressing a point of view.) Each of the groups then records its ratings by domain with the chairman. Then, the large-group assembles again, this time attempting to come to a large-group consensus about each of the domain.

The final product is an overall rating of performance on each of the domains making up the assessment. This data can be used, along with the normative data, to help judge the effectiveness of the entire program.

The Ottawa Roman Catholic
Separate School Board

140 Cumberland, Ottawa, Ontario. K1N 7G9—237-5660

Le Conseil des écoles
séparées catholiques d'Ottawa

AGE QUOD AGIS

February 15, 1982

Dear Panelist:

Re: 50/50 Programme Evaluation -
Interpretation Panel

Thank you very much for agreeing to participate in this important part of our programme review. Attached you will find two booklets containing test items in Language Arts: French, Environmental Studies, Language Arts: English and Mathematics. These test items measure achievement of objectives in the primary and early junior programme in our system.

A meeting of the Interpretation Panel has been scheduled for 10.00 a.m. - 4.00 p.m., February 23, 1982, at the School Board Offices, and prior to this, each panelist is requested to complete the following tasks:

1. Read Question 1 in the first booklet.
2. Insert the answer to Question 1 alongside the question in the booklet.
3. In your judgement, what percentage of present Grade IV students should be able to answer Question 1 correctly for system-wide achievement to be "Acceptable".
4. Enter this percentage (called a "p-value") in the "Acceptable p-value" column on the attached Individual Item Ratings sheets.
5. In your judgement, what percentage of present Grade IV students should be able to answer Question 1 correctly for system-wide achievement to be "Satisfactory".

/2

6. Enter this percentage in the "Satisfactory p-value" column on the attached Individual Item Ratings sheets. Normally, this figure will be higher than the "Acceptable p-value".

7. Repeat steps 1-5 for each of the remaining questions in the booklets.

8. Bring the booklets and the Individual Item Ratings sheets (with the first two columns completed) to the meeting on February 23rd.

In determining your p-values, remember that there are several factors that can affect your estimates.

1. How easy or difficult the question seems to be.

2. The characteristics of the Grade IV population:

   - not all children have attended O.R.C.S.S. Board for all their schooling.

   - the booklets were timed such that not all children were able to answer all questions.

   - all Grade IV children participated in the evaluation.

The children were also encouraged to answer "I don't know" if the question represented material they had not been taught or did not remember being taught.

There may be other factors that you personally consider important that will influence your decisions. Other panelists will no doubt have other perspectives. At the meeting you will be encouraged to share your perceptions with the other panelists.

An example of the process to be used by panelists to determine p-values is also attached.

Once again, thanks for your participation.

Yours sincerely,

P. A. Benton
Superintendent of Schools (Curriculum)

PAB/cg

Determining p-values - An example

27. Qu'est-ce qui serait le plus utile pour trouver la position de Vancouver (Canada) par rapport à Tokyo (Japan)?

(A) une encyclopédie
(B) un globe terrestre
(C) un journal
(D) un dictionnaire
(E) Je ne sais pas.

Panelist's Answer (B)

Panelist's ("Acceptable"p-value 65%)
Panelist's ("Satisfactory" p-value: 80%)

To be transposed onto Panelist's Individual Item Ratings list attached.

Panelist's Reasoning: The students have used maps and globes frequently. The other choices are not very persuasive. A few students may not have had very much experience with globes or may have difficulty understanding what the question asks.

N.B. Only the panelist's answer to the question has to be written in the booklet.

ENGLISH FORM ITEMS	INDIVIDUAL ITEM RATINGS						
	Acceptable P-value	Satisfactory P-value		Obtained P-value	Other Information		RATING
LANGUAGE ARTS: ENGLISH Subtest 1: Language Question 1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

LANGUAGE ARTS: ENGLISH

SMALL GROUP RATING

INDIVIDUALS' ITEM RATING

DOMAIN # 1: Language	1	2	3	Consensus Rating
Question 1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

OVERALL DOMAIN RATING

	LARGE GROUP RATING Small Group Ratings				
LANGUAGE ARTS: ENGLISH	1	2	3	4	OVERALL
DOMAIN # 1: LANGUAGE					
DOMAIN # 2: WRITING					
DOMAIN # 3: READING					
MATHEMATICS					
DOMAIN # 1: NUMBER CONCEPTS					
DOMAIN # 2: GEOMETRY, MEASUREMENT, GRAPHING					
FRENCH LANGUAGE ARTS					
DOMAIN # 1: LECTURE					
DOMAIN # 2: EXPRESSION ECRITE					
DOMAIN # 3: EXPRESSION ORALE					
ENVIRONMENTAL STUDIES					
DOMAIN # 1: ETUDES SOCIALES					
DOMAIN # 2: SCIENCES					

Item Results for O.R.S.C.S.S. Board
on
Two Forms of Instruments

GLOSSARY

PROP: DIFFICULTY OF THE ITEM. THESE INDICATE PROPORTION OF STUDENTS WHO GOT THE ITEM CORRECT.

CORR: CORRELATION BETWEEN STUDENTS RESPONSES ON AN ITEM AND THEIR TOTAL SCORE. THIS INDICATES WHETHER OR NOT THE ITEM IS ASSISTING THE TEST IN DISCRIMINATING BETWEEN STUDENTS WITH HIGH AND LOW SCORES.

PROP: PROPORTION OF STUDENTS RESPONDING TO A PARTICULAR ANSWER IN A MULTIPLE CHOICE QUESTION.

CORR/SUB: CORRELATION BETWEEN STUDENTS RESPONSES ON AN ITEM AND THEIR SUB-TEST SCORE.

English Language Instrument

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=== ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ===

TEST = LANGUAGE                                       MEAN =     5.3    NUMBER OF ITEMS =     8
   STANDARD DEVIATION =    1.73  NUMBER OF STUDENTS =  250
  ALPHA COEFFICIENT OF RELIABILITY:   0.528      STANDARD ERROR:   1.19

TEST
ITEM    KEY
                           OMIT       1        2        3        4       5+
  1     (1)       PROP:    0.0   [ 0.80]   0.05     0.03     0.11     0.01
                  CORR:    0.0   [ 0.37]  -0.15    -0.16    -0.21    -0.20
              SUB CORR:    0.0   [ 0.45]  -0.24    -0.13    -0.27    -0.19

  2     (2)       PROP:    0.0     0.04  [ 0.81]   0.05     0.09     0.02
                  CORR:    0.0    -0.09  [ 0.38]  -0.23    -0.21    -0.19
              SUB CORR:    0.0    -0.18  [ 0.54]  -0.30    -0.31    -0.22

  3     (3)       PROP:    0.0     0.03    0.10  [ 0.82]   0.02     0.03
                  CORR:    0.0    -0.09   -0.19  [ 0.37]  -0.23    -0.23
              SUB CORR:    0.0    -0.10   -0.37  [ 0.53]  -0.22    -0.25

  4     (4)       PROP:    0.01    0.21    0.19    0.01  [ 0.55]   0.03
                  CORR:   -0.07   -0.17   -0.14    0.05  [ 0.35]  -0.30
              SUB CORR:   -0.09   -0.23   -0.24    0.04  [ 0.48]  -0.28

  5     (4)       PROP:    0.00    0.25    0.06    0.10  [ 0.52]   0.07
                  CORR:    0.01   -0.29   -0.11   -0.11  [ 0.46]  -0.17
              SUB CORR:   -0.01   -0.35   -0.12   -0.17  [ 0.54]  -0.15

  6     (4)       PROP:    0.01    0.17    0.14    0.11  [ 0.36]   0.20
                  CORR:   -0.07    0.02   -0.16   -0.11  [ 0.41]  -0.28
              SUB CORR:   -0.09    0.04   -0.19   -0.19  [ 0.47]  -0.25

  7     (4)       PROP:    0.0     0.10    0.17    0.05  [ 0.63]   0.05
                  CORR:    0.0    -0.11    0.03   -0.18  [ 0.22]  -0.21
              SUB CORR:    0.0    -0.14   -0.19   -0.20  [ 0.43]  -0.24

  8     (4)       PROP:    0.00    0.04    0.03    0.16  [ 0.77]   0.0
                  CORR:   -0.00   -0.16    0.02   -0.33  [ 0.35]   0.0
              SUB CORR:   -0.01   -0.26   -0.01   -0.37  [ 0.45]   0.0
```

```
=== ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ===

TEST = WRITING                                          MEAN =     7.4    NUMBER OF ITEMS =    13
   STANDARD DEVIATION =    2.32  NUMBER OF STUDENTS =  250
  ALPHA COEFFICIENT OF RELIABILITY:     0.560       STANDARD ERROR:     1.54

TEST
ITEM      KEY

                           OMIT      1        2        3        4        5+
   9      (3)       PROP:  0.01     0.62     0.11  [ 0.14]   0.10     0.02    ??
                    CORR:  0.00    -0.07    -0.14  [ 0.19]   0.05    -0.04
                SUB CORR:  0.02    -0.13    -0.12  [ 0.25]   0.05    -0.00

  10      (3)       PROP:  0.0      0.07     0.24  [ 0.61]   0.04     0.04
                    CORR:  0.0     -0.21    -0.14  [ 0.32]  -0.11    -0.13
                SUB CORR:  0.0     -0.19    -0.26  [ 0.41]  -0.13    -0.10

  11      (3)       PROP:  0.00     0.10     0.08  [ 0.58]   0.18     0.05
                    CORR:  0.03    -0.10    -0.18  [ 0.44]  -0.25    -0.21
                SUB CORR: -0.01    -0.14    -0.21  [ 0.52]  -0.31    -0.18

  12      (4)       PROP:  0.01     0.13     0.06     0.15  [ 0.58]   0.06
                    CORR: -0.00    -0.09    -0.18    -0.18  [ 0.39]  -0.23
                SUB CORR:  0.04    -0.15    -0.16    -0.22  [ 0.47]  -0.28

  13      (2)       PROP:  0.00     0.10  [ 0.67]   0.10     0.08     0.04
                    CORR:  0.03    -0.18  [ 0.39]  -0.15    -0.23    -0.12
                SUB CORR: -0.01    -0.23  [ 0.47]  -0.24    -0.21    -0.10

  14      (2)       PROP:  0.0      0.14  [ 0.76]   0.03     0.03     0.04
                    CORR:  0.0     -0.19  [ 0.38]  -0.22    -0.25    -0.08
                SUB CORR:  0.0     -0.24  [ 0.41]  -0.20    -0.21    -0.11

  15      (1)       PROP:  0.0   [ 0.82]   0.02     0.07     0.07     0.02
                    CORR:  0.0   [ 0.29]  -0.28     0.05    -0.26    -0.14
                SUB CORR:  0.0   [ 0.29]  -0.31     0.05    -0.22    -0.18

  16      (1)       PROP:  0.00  [ 0.76]   0.12     0.05     0.05     0.02
                    CORR: -0.08  [ 0.36]  -0.14    -0.21    -0.19    -0.13
                SUB CORR: -0.04  [ 0.39]  -0.13    -0.19    -0.25    -0.17

  17      (4)       PROP:  0.00     0.05     0.01     0.07  [ 0.85]   0.01
                    CORR: -0.09    -0.25    -0.11    -0.17  [ 0.36]  -0.12
                SUB CORR: -0.07    -0.32    -0.11    -0.19  [ 0.41]  -0.11

  18      (4)       PROP:  0.01     0.18     0.29     0.17  [ 0.33]   0.02
                    CORR: -0.12    -0.08     0.08    -0.06  [ 0.08]  -0.09    ??
                SUB CORR: -0.09    -0.20     0.06    -0.09  [ 0.24]  -0.15

  19      (3)       PROP:  0.0      0.23     0.15  [ 0.27]   0.31     0.04
                    CORR:  0.0      0.05    -0.05  [ 0.19]  -0.13    -0.15
                SUB CORR:  0.0     -0.08    -0.12  [ 0.39]  -0.16    -0.11
```

```
TEST
ITEM      KEY
                              OMIT        1          2          3          4         5+
 20       (2)           PROP:  0.00      0.07   [ 0.62]     0.13       0.17       0.00
                        CORR: -0.10     -0.03   [ 0.27]    -0.07      -0.21      -0.19
                    SUB CORR: -0.04     -0.13   [ 0.38]    -0.06      -0.32      -0.17

 21       (3)           PROP:  0.00      0.37      0.03  [ 0.40]      0.14       0.05
                        CORR:  0.02     -0.11      0.00  [ 0.41]     -0.26      -0.26
                    SUB CORR:  0.02     -0.22     -0.01  [ 0.51]     -0.26      -0.23
```

```
=== ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ===

TEST = READING                                      MEAN =    6.8    NUMBER OF ITEMS =   10
   STANDARD DEVIATION =    2.44  NUMBER OF STUDENTS =  250
  ALPHA COEFFICIENT OF RELIABILITY:    0.726       STANDARD ERROR:    1.28

TEST
ITEM     KEY
                           OMIT       1       2       3       4       5+
 22      (3)        PROP:   0.0     0.03    0.04 [ 0.86]  0.05    0.02
                    CORR:   0.0    -0.18   -0.29 [ 0.53] -0.34   -0.16
                SUB CORR:   0.0    -0.19   -0.32 [ 0.52] -0.31   -0.12

 23      (2)        PROP:   0.00    0.07 [ 0.86]  0.04    0.02    0.01
                    CORR:  -0.06   -0.25 [ 0.45] -0.26   -0.24   -0.07
                SUB CORR:  -0.02   -0.25 [ 0.47] -0.28   -0.22   -0.16

 24      (1)        PROP:   0.01 [ 0.59]  0.07    0.24    0.03    0.06
                    CORR:  -0.07 [ 0.42] -0.19   -0.15   -0.18   -0.24
                SUB CORR:  -0.18 [ 0.51] -0.19   -0.22   -0.18   -0.26

 25      (1)        PROP:   0.02 [ 0.62]  0.03    0.29    0.01    0.03
                    CORR:  -0.10 [ 0.17] -0.08    0.02   -0.20   -0.27
                SUB CORR:  -0.28 [ 0.33] -0.10   -0.08   -0.21   -0.28

 26      (2)        PROP:   0.03    0.09 [ 0.69]  0.10    0.04    0.05
                    CORR.  -0.14   -0.30 [ 0.49] -0.19   -0.10   -0.20
                SUB CORR:  -0.31   -0.32 [ 0.64] -0.22   -0.17   -0.23

 27      (1)        PROP:   0.06 [ 0.49]  0.26    0.10    0.06    0.04
                    CORR:  -0.24 [ 0.41] -0.10   -0.03   -0.26   -0.20
                SUB CORR:  -0.44 [ 0.54] -0.16   -0.04   -0.20   -0.19

 28      (3)        PROP:   0.06    0.06    0.04 [ 0.65]  0.16    0.04
                    CORR:  -0.25   -0.23   -0.17 [ 0.46] -0.16   -0.09
                SUB CORR:  -0.48   -0.20   -0.14 [ 0.57] -0.15   -0.14

 29      (1)        PROP:   0.06 [ 0.73]  0.08    0.05    0.06    0.02
                    CORR:  -0.26 [ 0.49] -0.31   -0.10   -0.19   -0.03
                SUB CORR:  -0.49 [ 0.65] -0.23   -0.18   -0.24   -0.05

 30      (1)        PROP:   0.06 [ 0.68]  0.05    0.09    0.11    0.01
                    CORR:  -0.25 [ 0.39] -0.17   -0.12   -0.15   -0.04
                SUB CORR:  -0.47 [ 0.55] -0.20   -0.15   -0.16   -0.07

 31      (3)        PROP:   0.06    0.26    0.02 [ 0.62]  0.03    0.01
                    CORR:  -0.26   -0.34   -0.19 [ 0.55] -0.02   -0.26
                SUB CORR:  -0.45   -0.30   -0.20 [ 0.61] -0.09   -0.20
```

```
*** ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ***

TEST = NUMBER CONCEPTS                              MEAN =    9.9    NUMBER OF ITEMS =    14
   STANDARD DEVIATION =    2.35  NUMBER OF STUDENTS =  250
  ALPHA COEFFICIENT OF RELIABILITY:    0.647        STANDARD ERROR:    1.39

TEST
ITEM    KEY
                          OMIT      1       2       3       4       5+
  32    (2)        PROP:  0.0     0.08 [ 0.76]  0.02    0.12    0.02
                   CORR:  0.0    -0.12 [ 0.30]  0.01   -0.24   -0.15
               SUB CORR:  0.0    -0.21 [ 0.44] -0.01   -0.33   -0.17

  33    (3)        PROP:  0.01    0.13    0.06 [ 0.71]  0.05    0.04
                   CORR: -0.12   -0.23   -0.19 [ 0.44] -0.09   -0.22
               SUB CORR: -0.21   -0.29   -0.17 [ 0.53] -0:15   -0.25

  34    (3)        PROP:  0.0     0.04    0.06 [ 0.88]  0.02    0.00
                   CORR:  0.0    -0.24   -0.17 [ 0.34] -0.13   -0.09
               SUB CORR:  0.0    -0.27   -0.27 [ 0.49] -0.23   -0.19

  35    (2)        PROP:  0.00    0.06 [ 0.84]  0.05    0.02    0.02
                   CORR: -0.08   -0.12 [ 0.34] -0.24   -0.12   -0.16
               SUB CORR: -0.08   -0.19 [ 0.46] -0.28   -0.24   -0.14

  36    (1)        PROP:  0.0  [ 0.90]  0.03    0.04    0.03    0.01
                   CORR:  0.0  [ 0.35] -0.25   -0.17   -0.10   -0.19
               SUB CORR:  0.0  [ 0.51] -0.28   -0.29   -0.22   -0.17

  37    (3)        PROP:  0.0     0.05    0.15 [ 0.75]  0.02    0.03
                   CORR:  0.0    -0.14   -0.30 [ 0.39] -0.04   -0.16
               SUB CORR:  0.0    -0.23   -0.31 [ 0.48] -0.06   -0.21

  38    (3)        PROP:  0.02    0.03    0.06 [ 0.62]  0.13    0.14
                   CORR:  0.03   -0.05    0.05 [ 0.42] -0.35   -0.27
               SUB CORR: -0.03   -0.08   -0.02 [ 0.49] -0.38   -0.26

  39    (2)        PROP:  0.00    0.05 [ 0.89]  0.03    0.00    0.02
                   CORR: -0.07   -0.09 [ 0.25] -0.08   -0.09   -0.25
               SUB CORR: -0.13   -0.15 [ 0.36] -0.19   -0.19   -0.21

  40    (4)        PROP:  0.01    0.10    0.16    0.10 [ 0.62]  0.02
                   CORR:  0.05   -0.28   -0.22   -0.07 [ 0.42] -0.17
               SUB CORR:  0.04   -0.21   -0.28   -0.18 [ 0.47] -0.10

  41    (1)        PROP:  0.01 [ 0.29]  0.42    0.10    0.12    0.07
                   CORR:  0.02 [ 0.30] -0.08   -0.14   -0.07   -0.15
               SUB CORR: -0.02 [ 0.36] -0.05   -0.21   -0.09   -0.18

  42    (2)        PROP:  0.01    0.24 [ 0.10]  0.26    0.03    0.37     ??
                   CORR:  0.09   -0.00 [-0.08]  0.09   -0.05   -0.03     ??
               SUB CORR:  0.06   -0.04 [ 0.01]  0.06    0.04   -0.05     ??
```

```
TEST
ITEM    KEY
                          OMIT      1       2       3       4       5+
 43     (1)        PROP:  0.01 [ 0.83]  0.08    0.02    0.02    0.05
                   CORR:  0.01 [ 0.40] -0.17   -0.20   -0.17   -0.27
               SUB CORR: -0.01 [ 0.48] -0.18   -0.25   -0.22   -0.31

 44     (4)        PROP:  0.0    0.02   0.08    0.01 [ 0.88]  0.02
                   CORR:  0.0   -0.23  -0.17   -0.12 [ 0.35] -0.21
               SUB CORR:  0.0   -0.18  -0.27   -0.19 [ 0.44] -0.25

 45     (2)        PROP:  0.00   0.02 [ 0.78]  0.06    0.10    0.03
                   CORR:  0.03  -0.12 [ 0.33] -0.13   -0.22   -0.13
               SUB CORR:  0.03  -0.12 [ 0.38] -0.19   -0.22   -0.16
```

```
*** ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ***

TEST = GEOMETRY,MEASUREMENT,GRAPHING          MEAN =    7.0    NUMBER OF ITEMS =   11
   STANDARD DEVIATION =   2.29  NUMBER OF STUDENTS =  250
  ALPHA COEFFICIENT OF RELIABILITY:    0.595       STANDARD ERROR:    1.45

TEST
ITEM     KEY
                            OMIT      1       2       3       4       5+
 46      (3)         PROP:  0.0     0.25    0.09 [ 0.53]  0.08    0.05
                     CORR:  0.0    -0.20   -0.22 [ 0.43] -0.13   -0.15
                 SUB CORR:  0.0    -0.23   -0.23 [ 0.52] -0.18   -0.19

 47      (1)         PROP:  0.00 [ 0.82]  0.04    0.08    0.04    0.02
                     CORR: -0.09 [ 0.33] -0.13   -0.19   -0.13   -0.14
                 SUB CORR: -0.08 [ 0.41] -0.19   -0.21   -0.17   -0.17

 48      (2)         PROP:  0.01    0.05 [ 0.52]  0.36    0.04    0.02
                     CORR:  0.01   -0.17 [ 0.28] -0.18    0.04   -0.18
                 SUB CORR: -0.02   -0.17 [ 0.44] -0.31    0.01   -0.24

 49      (3)         PROP:  0.01    0.15    0.02 [ 0.79]  0.02    0.01
                     CORR: -0.11   -0.16   -0.10 [ 0.26] -0.05   -0.23
                 SUB CORR: -0.18   -0.19   -0.06 [ 0.29] -0.05   -0.23

 50      (2)         PROP:  0.0     0.27 [ 0.58]  0.08    0.04    0.04
                     CORR:  0.0    -0.33 [ 0.47] -0.15   -0.05   -0.18
                 SUB CORR:  0.0    -0.34 [ 0.53] -0.19   -0.10   -0.21

 51      (3)         PROP:  0.02    0.19    0.07 [ 0.56]  0.10    0.07
                     CORR: -0.11   -0.02   -0.04 [ 0.28] -0.17   -0.21
                 SUB CORR: -0.25   -0.12   -0.07 [ 0.41] -0.16   -0.23

 52      (2)         PROP:  0.02    0.03 [ 0.79]  0.07    0.05    0.04
                     CORR: -0.08   -0.06 [ 0.32] -0.13   -0.20   -0.16
                 SUB CORR: -0.27   -0.15 [ 0.49] -0.19   -0.20   -0.22

 53      (3)         PROP:  0.03    0.14    0.02 [ 0.66]  0.06    0.09
                     CORR: -0.11    0.07   -0.21 [ 0.08] -0.05   -0.03
                 SUB CORR: -0.28   -0.04   -0.18 [ 0.33] -0.19   -0.09

 54      (4)         PROP:  0.04    0.08    0.05    0.10 [ 0.64]  0.10
                     CORR: -0.14   -0.22   -0.13   -0.18 [ 0.49] -0.23
                 SUB CORR: -0.30   -0.20   -0.13   -0.16 [ 0.55] -0.27

 55      (2)         PROP:  0.05    0.10 [ 0.42]  0.10    0.13    0.21
                     CORR: -0.14   -0.09 [ 0.44] -0.12   -0.10   -0.22
                 SUB CORR: -0.28   -0.08 [ 0.49] -0.08   -0.08   -0.25

 56      (4)         PROP:  0.07    0.14    0.04    0.05 [ 0.64]  0.06
                     CORR: -0.10   -0.03   -0.15   -0.26 [ 0.34] -0.17
                 SUB CORR: -0.26   -0.07   -0.14   -0.21 [ 0.43] -0.18
```

French Language Instrument

```
*** ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ***

TEST = LECTURE                                       MEAN =     7.3    NUMBER OF ITEMS =    10
  STANDARD DEVIATION =    1.78  NUMBER OF STUDENTS =  257
 ALPHA COEFFICIENT OF RELIABILITY:    0.466       STANDARD ERROR:    1.30

TEST
ITEM     KEY
                         OMIT       1       2       3       4      5+
  1      (1)      PROP:  0.00  [ 0.63]  0.12    0.19    0.03    0.03
                  CORR:  0.00  [ 0.30] -0.20   -0.09   -0.09   -0.21
              SUB CORR: -0.08  [ 0.38] -0.20   -0.20   -0.03   -0.20

  2      (3)      PROP:  0.0     0.03    0.03  [ 0.89]  0.03    0.02
                  CORR:  0.0    -0.18   -0.18  [ 0.35] -0.08   -0.23
              SUB CORR:  0.0    -0.24   -0.17  [ 0.43] -0.11   -0.32

  3      (3)      PROP:  0.00    0.11    0.04  [ 0.54]  0.23    0.07
                  CORR:  0.01   -0.13   -0.20  [ 0.42] -0.20   -0.19
              SUB CORR:  0.06   -0.22   -0.22  [ 0.53] -0.26   -0.19

  4      (1)      PROP:  0.0   [ 0.60]  0.25    0.09    0.05    0.02
                  CORR:  0.0   [ 0.44] -0.18   -0.18   -0.21   -0.31
              SUB CORR:  0.0   [ 0.49] -0.22   -0.15   -0.24   -0.35

  5      (3)      PROP:  0.01    0.24    0.01  [ 0.56]  0.09    0.09
                  CORR: -0.08   -0.03   -0.06  [ 0.27] -0.20   -0.17
              SUB CORR: -0.02   -0.19   -0.06  [ 0.44] -0.22   -0.23

  6      (2)      PROP:  0.00    0.09  [ 0.81]  0.06    0.0     0.04
                  CORR:  0.00   -0.13  [ 0.23] -0.13    0.0    -0.11
              SUB CORR: -0.01   -0.16  [ 0.29] -0.19    0.0    -0.11

  7      (1)      PROP:  0.00  [ 0.85]  0.00    0.06    0.07    0.01
                  CORR:  0.02  [ 0.25]  0.06   -0.29   -0.09   -0.01
              SUB CORR: -0.01  [ 0.34]  0.03   -0.33   -0.16   -0.01

 44      (4)      PROP:  0.0     0.18    0.03    0.03  [ 0.72]  0.04
                  CORR:  0.0     0.04   -0.11   -0.17  [ 0.14] -0.17
              SUB CORR:  0.0    -0.20   -0.28   -0.15  [ 0.41] -0.18

 45      (4)      PROP:  0.0     0.06    0.02    0.07  [ 0.83]  0.02
                  CORR:  0.0    -0.12   -0.12   -0.27  [ 0.37] -0.17
              SUB CORR:  0.0    -0.18   -0.13   -0.31  [ 0.47] -0.26

 46      (3)      PROP:  0.0     0.02    0.10  [ 0.82]  0.05    0.00
                  CORR:  0.0    -0.14   -0.07  [ 0.26] -0.25    0.03
              SUB CORR:  0.0    -0.15   -0.18  [ 0.38] -0.32   -0.01
```

```
*** ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ***

TEST = EXPRESSION ECRITE                      MEAN =    8.1    NUMBER OF ITEMS =    14
   STANDARD DEVIATION =    2.51  NUMBER OF STUDENTS =  257
  ALPHA COEFFICIENT OF RELIABILITY:    0.578       STANDARD ERROR:    1.63

TEST
ITEM     KEY
                              OMIT       1        2        3        4       5+
  8      (1)           PROP:  0.00 [ 0.72]  0.05     0.05     0.09     0.09
                       CORR: -0.00 [ 0.28] -0.15    -0.22    -0.03    -0.13
                   SUB CORR: -0.03 [ 0.35] -0.16    -0.26    -0.12    -0.11

  9      (2)           PROP:  0.00    0.12 [ 0.56]  0.19     0.06     0.07
                       CORR:  0.00   -0.16 [ 0.40] -0.13    -0.20    -0.19
                   SUB CORR:  0.02   -0.20 [ 0.52] -0.21    -0.28    -0.19

 10      (2)           PROP:  0.01    0.11 [ 0.74]  0.11     0.03     0.0
                       CORR: -0.09   -0.21 [ 0.30] -0.13    -0.11     0.0
                   SUB CORR: -0.06   -0.20 [ 0.36] -0.26    -0.05     0.0

 11      (2)           PROP:  0.01    0.43 [ 0.35]  0.05     0.04     0.12
                       CORR: -0.03   -0.02 [ 0.20] -0.02    -0.07    -0.20
                   SUB CORR: -0.02   -0.14 [ 0.33] -0.03    -0.09    -0.19

 12      (3)           PROP:  0.0     0.16     0.08 [ 0.67]  0.08     0.00
                       CORR:  0.0    -0.15    -0.18 [ 0.28] -0.12     0.09
                   SUB CORR:  0.0    -0.24    -0.15 [ 0.35] -0.13     0.05

 13      (3)           PROP:  0.0     0.32     0.06 [ 0.43]  0.16     0.03
                       CORR:  0.0     0.02    -0.21 [ 0.29] -0.23    -0.14
                   SUB CORR:  0.0    -0.11    -0.29 [ 0.41] -0.19    -0.11

 14      (1)           PROP:  0.0  [ 0.88]  0.06     0.02     0.04     0.00
                       CORR:  0.0  [ 0.14]  0.02    -0.17    -0.10    -0.13
                   SUB CORR:  0.0  [ 0.30] -0.10    -0.22    -0.19    -0.13

 15      (1)           PROP:  0.0  [ 0.57]  0.17     0.18     0.04     0.04
                       CORR:  0.0  [ 0.29]  0.01    -0.18    -0.21    -0.19
                   SUB CORR:  0.0  [ 0.37] -0.05    -0.23    -0.25    -0.15

 16      (3)           PROP:  0.00    0.01     0.01 [ 0.92]  0.02     0.04     ??
                       CORR:  0.04   -0.18    -0.10 [ 0.41] -0.23    -0.29
                   SUB CORR: -0.05   -0.21    -0.15 [ 0.45] -0.28    -0.24

 17      (2)           PROP:  0.00    0.26 [ 0.53]  0.02     0.10     0.09
                       CORR:  0.00   -0.35 [ 0.39] -0.11     0.09    -0.20
                   SUB CORR:  0.02   -0.41 [ 0.49] -0.18    -0.03    -0.12

 18      (4)           PROP:  0.00    0.09     0.16     0.11 [ 0.52]  0.11
                       CORR:  0.00   -0.22    -0.09    -0.15 [ 0.34] -0.08
                   SUB CORR:  0.02   -0.26    -0.20    -0.21 [ 0.47] -0.05
```

```
TEST
ITEM     KEY
                            OMIT       1       2       3       4      5+
 19      (2)         PROP:   0.00    0.09 [ 0.28]  0.27    0.26    0.09
                     CORR:  -0.12   -0.05 [ 0.31]  0.06   -0.20   -0.20
                 SUB CORR:  -0.20   -0.02 [ 0.33]  0.04   -0.25   -0.13

 20      (3)         PROP:   0.0     0.18    0.37 [ 0.34]  0.09    0.01
                     CORR:   0.0    -0.19    0.14 [ 0.20] -0.25   -0.21
                 SUB CORR:   0.0    -0.16    0.01 [ 0.32] -0.28   -0.11

 21      (2)         PROP:   0.0     0.34 [ 0.61]  0.01    0.02    0.02
                     CORR:   0.0    -0.24 [ 0.38] -0.10   -0.19   -0.28
                 SUB CORR:   0.0    -0.32 [ 0.47] -0.15   -0.20   -0.24
```

```
=== ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ===

TEST = EXPRESSION ORALE                              MEAN =     5.2    NUMBER OF ITEMS =     9
  STANDARD DEVIATION =     1.80  NUMBER OF STUDENTS =  257
 ALPHA COEFFICIENT OF RELIABILITY:    0.431         STANDARD ERROR:    1.36

TEST
ITEM      KEY
                             OMIT       1        2        3        4        5+
 35       (2)         PROP:   0.00     0.0   [ 0.98]   0.01     0.0      0.01    ??
                      CORR:  -0.10     0.0   [ 0.20]  -0.03     0.0     -0.25
                  SUB CORR:  -0.01     0.0   [ 0.23]  -0.13     0.0     -0.23

 36       (3)         PROP:   0.02     0.02     0.02 [ 0.57]   0.33     0.05
                      CORR:   0.00    -0.07    -0.09 [ 0.34]  -0.18    -0.29
                  SUB CORR:  -0.13    -0.06    -0.08 [ 0.47]  -0.28    -0.30

 37       (2)         PROP:   0.00     0.29 [ 0.59]   0.04     0.03     0.05
                      CORR:   0.01    -0.25 [ 0.30]  -0.06    -0.01    -0.10
                  SUB CORR:  -0.01    -0.40 [ 0.47]  -0.10    -0.00    -0.14

 38       (1)         PROP:   0.0   [ 0.43]   0.34     0.07     0.07     0.08
                      CORR:   0.0   [ 0.37]  -0.03    -0.19    -0.16    -0.29
                  SUB CORR:   0.0   [ 0.42]  -0.15    -0.12    -0.19    -0.22

 39       (1)         PROP:   0.01 [ 0.46]   0.04     0.06     0.16     0.27
                      CORR:   0.05 [ 0.11]  -0.04     0.00     0.08    -0.19
                  SUB CORR:   0.05 [ 0.32]  -0.05    -0.02    -0.04    -0.30

 40       (3)         PROP:   0.0      0.27     0.07 [ 0.57]   0.04     0.04
                      CORR:   0.0     -0.10    -0.11 [ 0.25]  -0.13    -0.11
                  SUB CORR:   0.0     -0.27    -0.13 [ 0.47]  -0.22    -0.16

 41       (4)         PROP:   0.0      0.07     0.14     0.23 [ 0.46]   0.09
                      CORR:   0.0     -0.05    -0.12    -0.12 [ 0.34]  -0.23
                  SUB CORR:   0.0     -0.05    -0.25    -0.16 [ 0.48]  -0.26

 42       (3)         PROP:   0.0      0.02     0.35 [ 0.49]   0.09     0.05
                      CORR:   0.0     -0.03    -0.05 [ 0.24]  -0.19    -0.17
                  SUB CORR:   0.0     -0.13    -0.21 [ 0.47]  -0.24    -0.22

 43       (1)         PROP:   0.0   [ 0.60]   0.25     0.07     0.01     0.06
                      CORR:   0.0   [ 0.28]  -0.12    -0.13    -0.05    -0.21
                  SUB CORR:   0.0   [ 0.46]  -0.31    -0.12    -0.01    -0.23
```

```
*** ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ***

TEST = ETUDES SOCIALES                                  MEAN =    7.3    NUMBER OF ITEMS =    13
   STANDARD DEVIATION =    2.94  NUMBER OF STUDENTS =  257
  ALPHA COEFFICIENT OF RELIABILITY:   0.724      STANDARD ERROR:    1.54

TEST
ITEM     KEY
                         OMIT       1        2        3        4        5+
 22      (1)      PROP:   0.0   [ 0.95]  0.03     0.0      0.02     0.0       ??
                  CORR:   0.0   [ 0.25] -0.18     0.0     -0.17     0.0
              SUB CORR:   0.0   [ 0.23] -0.13     0.0     -0.22     0.0

 23      (1)      PROP:   0.0   [ 0.51]  0.21     0.06     0.13     0.09
                  CORR:   0.0   [ 0.40] -0.21    -0.17    -0.11    -0.13
              SUB CORR:   0.0   [ 0.46] -0.23    -0.22    -0.13    -0.14

 24      (2)      PROP:   0.00     0.11 [ 0.43]  0.32     0.05     0.09
                  CORR:   0.00    -0.23 [ 0.32] -0.01    -0.18    -0.15
              SUB CORR:   0.04    -0.25 [ 0.41] -0.05    -0.19    -0.21

 25      (2)      PROP:   0.0      0.03 [ 0.72]  0.08     0.11     0.07
                  CORR:   0.0     -0.12 [ 0.29] -0.11    -0.06    -0.24
              SUB CORR:   0.0     -0.12 [ 0.35] -0.12    -0.14    -0.25

 26      (4)      PROP:   0.02     0.08     0.09     0.24 [ 0.25]  0.32
                  CORR:  -0.08    -0.13    -0.03     0.01 [ 0.30] -0.17
              SUB CORR:  -0.15    -0.12    -0.05    -0.07 [ 0.37] -0.14

 27      (2)      PROP:   0.04     0.09 [ 0.66]  0.14     0.04     0.03
                  CORR:  -0.20    -0.21 [ 0.44] -0.18    -0.10    -0.17
              SUB CORR:  -0.31    -0.32 [ 0.58] -0.20    -0.15    -0.16

 28      (4)      PROP:   0.03     0.11     0.04     0.10 [ 0.68]  0.04
                  CORR:  -0.25    -0.19    -0.22    -0.21 [ 0.55] -0.26
              SUB CORR:  -0.34    -0.25    -0.19    -0.29 [ 0.64] -0.20

 29      (3)      PROP:   0.05     0.09     0.21 [ 0.51]  0.05     0.09
                  CORR:  -0.25    -0.07    -0.10 [ 0.40] -0.09    -0.23
              SUB CORR:  -0.37    -0.06    -0.11 [ 0.48] -0.14    -0.23

 30      (2)      PROP:   0.06     0.17 [ 0.47]  0.16     0.10     0.03
                  CORR:  -0.23    -0.15 [ 0.43] -0.10    -0.13    -0.15
              SUB CORR:  -0.37    -0.20 [ 0.55] -0.14    -0.11    -0.16

 31      (2)      PROP:   0.08     0.11 [ 0.63]  0.05     0.02     0.12
                  CORR:  -0.21     0.02 [ 0.35] -0.15    -0.05    -0.24
              SUB CORR:  -0.38    -0.07 [ 0.51] -0.16    -0.03    -0.26

 32      (2)      PROP:   0.09     0.11 [ 0.49]  0.11     0.11     0.09
                  CORR:  -0.23    -0.05 [ 0.56] -0.23    -0.20    -0.22
              SUB CORR:  -0.39    -0.01 [ 0.63] -0.24    -0.23    -0.18
```

```
TEST
ITEM     KEY
                         OMIT        1         2         3         4         5+
  33     (3)     PROP:   0.11      0.12      0.06 [ 0.50]  0.13      0.07
                 CORR:  -0.20     -0.18     -0.15 [ 0.42] -0.06     -0.14
             SUB CORR:  -0.36     -0.18     -0.14 [ 0.50] -0.06     -0.10

  34     (1)     PROP:   0.11 [ 0.48]  0.10      0.08      0.11      0.11
                 CORR:  -0.19 [ 0.39] -0.05     -0.04     -0.11     -0.24
             SUB CORR:  -0.35 [ 0.47] -0.10     -0.07     -0.02     -0.20
```

```
*** ITEM ANALYSIS - RESULTS FOR ALL STUDENTS WITH NO MISSING SUBTEST SCORES ***

TEST = ETUDES SCIENCES                          MEAN =     5.5    NUMBER OF ITEMS =    12
   STANDARD DEVIATION =    2.35  NUMBER OF STUDENTS =  257
  ALPHA COEFFICIENT OF RELIABILITY:     0.590        STANDARD ERROR:     1.50

TEST
ITEM      KEY
                          OMIT       1         2         3         4         5+
 47      (1)       PROP:   0.0   [ 0.87]   0.06      0.04      0.01      0.02
                   CORR:   0.0   [ 0.32]  -0.07     -0.20     -0.15     -0.25
               SUB CORR:   0.0   [ 0.35]  -0.16     -0.17     -0.11     -0.23

 48      (4)       PROP:   0.0      0.12   0.05      0.02   [ 0.73]    0.08
                   CORR:   0.0     -0.28  -0.03     -0.11   [ 0.38]   -0.20
               SUB CORR:   0.0     -0.32  -0.08     -0.09   [ 0.46]   -0.26

 49      (3)       PROP:   0.00     0.08   0.27   [ 0.30]    0.25      0.10
                   CORR:   0.10    -0.21  -0.10   [ 0.30]    0.07     -0.24
               SUB CORR:   0.07    -0.15  -0.16   [ 0.36]    0.01     -0.21

 50      (2)       PROP:   0.01     0.19 [ 0.23]    0.14      0.21      0.21
                   CORR:  -0.03     0.03 [ 0.29]   -0.11      0.01     -0.23
               SUB CORR:  -0.10    -0.01 [ 0.33]   -0.09      0.01     -0.24

 51      (4)       PROP:   0.0      0.16   0.25      0.10   [ 0.37]    0.14
                   CORR:   0.0     -0.09  -0.07     -0.17   [ 0.38]   -0.21
               SUB CORR:   0.0     -0.12  -0.10     -0.21   [ 0.49]   -0.26

 52      (3)       PROP:   0.01     0.13   0.13   [ 0.19]    0.20      0.34      ??
                   CORR:   0.03    -0.01   0.04   [ 0.24]    0.04     -0.26
               SUB CORR:  -0.04    -0.01   0.04   [ 0.36]    0.02     -0.33

 53      (2)       PROP:   0.02     0.18 [ 0.43]    0.14      0.10      0.14
                   CORR:  -0.09     0.10 [ 0.18]   -0.09     -0.14     -0.13
               SUB CORR:  -0.15     0.02 [ 0.32]   -0.09     -0.12     -0.21

 54      (1)       PROP:   0.02  [ 0.54]   0.07      0.13      0.18      0.06
                   CORR:  -0.05  [ 0.28]  -0.06     -0.08     -0.08     -0.24
               SUB CORR:  -0.15  [ 0.36]  -0.08     -0.11     -0.10     -0.26

 55      (4)       PROP:   0.02     0.12   0.08      0.12   [ 0.60]    0.05
                   CORR:  -0.06    -0.32  -0.16     -0.12   [ 0.52]   -0.27
               SUB CORR:  -0.14    -0.33  -0.19     -0.08   [ 0.56]   -0.30

 56      (2)       PROP:   0.04     0.21 [ 0.45]    0.11      0.12      0.07
                   CORR:  -0.11    -0.24 [ 0.34]    0.01      0.06     -0.27
               SUB CORR:  -0.13    -0.25 [ 0.47]   -0.13     -0.03     -0.22

 57      (4)       PROP:   0.07     0.12   0.06      0.21   [ 0.29]    0.25
                   CORR:  -0.09    -0.05  -0.08     -0.09   [ 0.36]   -0.17
               SUB CORR:  -0.11    -0.06  -0.06     -0.08   [ 0.46]   -0.27
```

```
TEST
ITEM    KEY
                         OMIT      1        2        3        4        5+
 58     (2)        PROP   0.09    0.03 [ 0.52]  0.19     0.11     0.05
                   CORR  -0.05   -0.10 [ 0.43] -0.23    -0.14    -0.22
               SUB CORR  -0.13   -0.17 [ 0.55] -0.25    -0.18    -0.23
```

APPENDIX H

Correlation Matrix
for
Oral Performance Measures

Correlation Matrix for Oral Performance Measures

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Male	1.															
Female	2.	-.98														
School SES	3.	.10	-.05													
No. yrs. 50-50 in school	4.	.11	-.07	.28												
No. yrs. 50-50 Other	5.	.07	-.08	-.13	-.63											
English	6.	-.11	.05	-.08	.05	-.21										
French	7.	.03	-.03	.02	-.18	.16	-.53									
No. of Questions	8.	.19	-.17	.28	.13	.07	-.03	.16								
Quality of Questions	9.	.02	.02	.26	-.06	.26	-.20	.40	.71							
Listening Comp.	10.	.00	.05	.24	.14	.15	-.21	.25	.59	.68						
Fluency	11.	.07	-.03	.36	.10	.21	-.29	.36	.66	.81	.78					
Pronun/Enun.	12.	.10	-.07	.37	.14	.24	-.31	.33	.53	.74	.73	.80				
Total 50-50	13.	.21	.17	.21	.57	.28	-.15	-.06	.23	.20	.34	.34	.43			
Language	14.	-.10	.04	-.07	-.11	-.09	.64	.32	.12	.14	.00	.00	-.04	-.22		
Total Conversation Score	15.	.08	-.04	.35	.09	.23	-.25	.36	.77	.90	.87	.93	.88	.36	.05	

APPENDIX I

P1J1 Objectives
&
Degree of Matching to
O.R.C.S.S.B. Objectives

Primary Division

THE FORMATIVE YEARS

By the end of the Primary Division, the program should have provided the child with the opportunity to acquire competence in the areas outlined below.

Learning experiences in the Primary Division will enable the child to:

ithmetic

1. Understand and use numbers and operations

- ☐ classify, order, and match objects in a collection, including structural materials such as rods, blocks, and interlocking cubes;
- ☐ count, group, and use notation for recording;
- ☐ master number facts related to addition, subtraction, multiplication, and division of whole numbers which are relevant to his or her experience;
- ☐ recognize and use patterns such as $5+9, 15+9, 25+9 .. 85+9$; $5+7, 15+7, 5+17$; $3+4=4+3$, $5\times9=9\times5$ (commutative property); $2+(3+4)=(2+3)+4$; $3\times(4\times5)=(3\times4)\times5$ (associative property);
- ☐ acquire an understanding of the concepts of simple fractions (including equivalent fractions) and decimals;
- apply arithmetic to everyday problems and recognize through such activities the need for further skills.

easurement

2. Use measurement in relevant situations with an understanding of the concepts involved

- acquire an understanding of the concept of conservation of quantity;
- △ match, compare, and order lengths, areas, volumes, masses, time, and temperature, using appropriate terms;
- △ measure, using arbitrary units and standard units, with a degree of precision appropriate to his or her stage of development;
- estimate quantities by sight, touch, or by comparison with familiar objects (such as parts of the body) and confirm estimates by measurement;
- ☐ use metric units of length, area, volume, mass, and temperature.

Geometry

3. Understand relationships involving space and shape

- △ recognize spatial patterns in the environment;
- describe, identify, and classify objects by attributes such as shape, thickness, colour, and texture;
- △ identify solids such as the cone, cylinder, sphere, cube, cuboid, prism, and pyramid, and use terms such as *face, edge,* and *vertex;*
- construct cubes, cuboids, prisms, pyramids, and other three-dimensional shapes and frameworks, using patterns and appropriate materials;
- ☐ identify plane figures such as the triangle, rectangle, square, pentagon, hexagon, octagon, and circle;
- △ recognize symmetry in three-dimensional and two-dimensional figures;
- use introductory comparative ideas of scale such as *twice as large, three times as long, half as high;*
- △ recognize similarity through the use of drawings, maps, and scale models.

Listening

4. Listen with sensitivity and discrimination

- locate, interpret, compare, classify, and discuss a variety of sounds;
- recognize variations in intonation, volume, stress, pitch, and in the whole melody of speech;
- recognize the qualities and textures of sound;
- recognize a variety of language patterns, rhymes, sounds, and rhythms and make comparisons and find relationships;
- ☐ differentiate sounds within words (phonics);
- appreciate poetry and prose that is read aloud by others, and explore and interpret the human experience, feelings, and values expressed therein;
- appreciate models of good speech and of the effective use of sound and music;
- acquire an understanding of oral directions, messages, and reports.

Legend: ☐ P1J1 Objective Fully Matched by O.R.C.S.S.B.

△ P1J1 Objective Partially Matched by O.R.C.S.S.B.

SPEAKING

5. **Articulate his or her own ideas, thoughts, and feelings with confidence and lucidity**

- use speech to establish and maintain groups in which learning is likely to occur;
- form ideas through impromptu talk, using incomplete and tentative structures if necessary;
- △ master a vocabulary that enables him or her to name, describe, reason, explain, and use qualitative words as he or she plays, observes, manipulates, creates, and experiments with stimulating materials;
- discuss topics and issues that are personally significant;
- participate in dramatic play, puppetry, choral speech, and oral reading.

Reading

6. **Learn to read using the initial skills and processes that he or she finds most effective**

- collect words and phrases that are personally significant, and classify them and use them creatively in various ways (e.g., booklets and dictionaries);
- perceive regularities and differences that characterize words;
- △ use his or her own words to build new sentence patterns, grouping rhyming words or words that begin in the same way into families, seeing little words in larger words, making new words by adding prefixes and suffixes or by substituting letters;
- ⊡ understand and use simple syntactic, phonemic, and graphemic cues;
- △ apply his or her reading skills to various kinds and levels of materials, including his or her own work and that of peers.

Reading

7. **Appreciate the significance and function of reading in his or her own life**

- use reading as a source of information and enjoyment;
- △ respond to print stimuli within the environment (signs, labels, directions, letters, initials);
- use a library or resource centre;
- ⊡ organize and record information;
- develop an interest in a wide variety of reading materials.

Reading

8. **Read independently with enjoyment and with a fluency appropriate to his or her stage of development**

- develop and use a variety of techniques for decoding words;
- understand and respond in personal ways to the ideas, attitudes, and feelings expressed in various reading materials;
- draw inferences from context, relate them to personal experiences, and extend the ideas presented in a variety of ways;
- develop his or her own reading materials by drawing upon personal experiences and language;
- use reading as a source of personal enrichment and pleasure and thus take the first steps in recognizing and appreciating literary value.

WRITING

9. **Express experiences, thoughts, and feelings in writing with clarity and sensitivity**

- master a vocabulary of words, phrases, and expressions through which personal feelings, sensations, and observations can be adequately expressed;
- ✎ experiment with words, word patterns, and idioms;
- ⊡ develop a sense of sequence and logic that enables individual progress from isolated phrases or sentences to the coherence of a paragraph;
- ⊡ demonstrate an appreciation of style by incorporating in his or her own writing effective words or phrases selected from those encountered in reading and listening;
- ⊡ demonstrate a knowledge of the patterns of spelling and rules of punctuation required for clarity;
- ⊡ demonstrate a knowledge of common grammatical forms;
- ⊡ write legibly in a manner appropriate to his or her stage of development;
- ⊡ use writing for creative expression (e.g., stories and verses);
- ⊡ use writing for practical purposes (e.g., sequential instructions for specific operations or short letters requesting permission or information);
- assess his or her own writing in appropriate ways;
- ⊡ appreciate that writing can be used to inform, to explain, to describe, to narrate, and to give voice to imagination and fantasy.

Primary and Junior Divisions

In the Primary and Junior Divisions, the program will provide the child with experiences designed to foster the forms of development outlined below.

The child in the Primary and Junior Divisions will be given opportunities to:

Perception and Expression

1. **Increase sensitivity of perception through the use of all the senses and develop the capacity to express this sensitivity through a variety of creative media**

- ⊡ appreciate that his or her own ideas and feelings have value and are worthy of expression;
- ✎ develop the ability to express his or her ideas and feelings through active participation in drama, music, physical education, and the visual arts;
- ⊡ become aware of his or her reactions to physical sensation and develop a healthy, positive attitude towards them;
- classify objects by attributes such as colour, texture, shape, smell, sound, and mass and develop vocabulary to describe and identify them;
- use the opportunities provided by the arts to practise problem-solving both independently and co-operatively;
- ✎ enjoy the power of creation through the use of colour, pattern, movement, sound, language, and materials;
- identify and use ideas gathered from the arts (e.g., those in nursery rhymes, songs, dramatic activities, the visual arts) to better understand our society;
- develop the freedom of thought necessary for creativity.

Drama

2. **Develop self-awareness and self-confidence through drama and related creative activities**

- discover and clarify assumptions, points of view, and emotional reactions and gain an awareness of his or her role as well as the roles others play;
- co-operate with others and develop empathy with them by working with them and exchanging ideas freely;
- develop the ability to concentrate and gain confidence from growing powers of self-expression;
- develop a greater awareness of bodily movement and of some of the factors inherent in movement expression (e.g., body awareness, body activity, relationship of self to space and to others, quality of movement).

MUSIC

3. Develop sensitivity to sound and thus acquire a base for growth in music

- enjoy and experience music through singing, playing, listening, creating, moving, and dramatizing;
- enjoy singing and become familiar with a wide repertoire of songs;
- recognize and discriminate between different types of sounds heard in daily life and explore their potential relationship to music;
- listen to music of various periods and styles;
- produce and experiment with sounds through a variety of means in order to become increasingly sensitive to rhythm, pitch, dynamics, timbre, form, melody, and harmony;
- develop the ability to use pitched and unpitched sounds in a creative way;
- become familiar with and develop the ability to use the language and grammar of music as a means of communication.

4. Develop visual awareness, sensitivity, and appreciation

VISUAL ARTS

- experience and respond to forms, events, and materials in the environment;
- perceive qualities of form such as similarities and contrasts, surfaces, patterns, rhythms, cohesiveness, line, mass, space, and colour in natural and manufactured objects and materials;
- clarify and express personal experiences and feelings in visual form through a variety of materials and activities such as modelling, construction, painting, and drawing;
- share visual expressions and relate them generally to the work of other people.

Physical Education

5. **Develop creativity, confidence, and physical fitness through physical activities**

⊡ develop gross and fine motor skills through a wide variety of physical activities;

◬ develop an understanding of movement and a love of vigorous activity;

◬ develop the ability to estimate space and distance in relation to his or her own physical capabilities and movements;

⊡ participate in individual and group games, movement exploration activities, dance, and gymnastic sequences;

- develop an appropriate degree of balance, strength, speed, precision, and economy of effort in physical actions.

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HEALTH

6. Acquire some basic understanding of his or her physical and emotional nature and of the principles of healthy living

- ⊡ acquire an understanding, at an appropriate developmental level, of such life processes as respiration, digestion, and reproduction and of the basic structure of the human body as it relates to these processes;
- ⊡ appreciate the relation of physical development to ability, emotions, attitudes, and behaviour;
- ◬ acquire an understanding of the use, misuse, and abuse of mood and behaviour modifiers;
- ⊡ appreciate the interdependence of people and their environment and the effects of environmental conditions on health;
- ◬ acquire an understanding of the fundamentals of good nutrition and become familiar with some of the alternative ways of maintaining these fundamentals as reflected in the culinary practices of various cultural groups;
- develop appropriate understandings regarding sexuality.

VALUES

7. Begin to develop a personal value system within a context that reflects the priorities of a concerned society and at the same time recognizes the integrity of the individual

- become aware of the values that Canadians regard as essential to the well-being and continuing development of their society – namely, respect for the individual, concern for others, social responsibility, compassion, honesty, and the acceptance of work, thought, and leisure as valid pursuits for human beings;
- begin to develop a personal set of values by identifying value alternatives and their consequences, selecting personal values from the alternatives, internalizing the values selected, and acting in accordance with the values selected;
- identify and analyse public value issues.

* Materials not provided.

Decision-Making

8. Develop the ability to make informed and rational decisions

- extend and organize personal questions and interests and participate in purposeful first-hand investigations;
- ⊡ develop the elements of the scientific method, i.e., acquire the skills of careful and objective observation, learn to distinguish between observation and inference, and use observation to test ideas, investigate ambiguity, and make predictions, inferences, and generalizations;
- ⊡ make effective use of the various types of notation and reporting techniques;
- develop the ability to obtain information from secondary sources by learning: to plan an investigation and to formulate questions specific enough for investigation; to locate sources of information pertinent to a particular fact or theme; to identify the main point in a paragraph; to explain this orally and rewrite the information in his or her own words; to check information for accuracy, examine conflicting evidence, draw reasonable conclusions from texts, pictures, and charts, and to make useful notes of the information obtained from first-hand observations, reference materials, audio-visual media, and interviews;
- organize information to illustrate a point, sustain an argument, or provide a basis for decision-making.

THE INDIVIDUAL & SOCIETY

9. Understand social relationships at a level appropriate to his or her stage of development

- understand his or her own nature and needs as a basis for understanding the nature and needs of others;
- appreciate that his or her actions as an individual are reflected, in however small a way, in his or her physical and cultural setting;
- develop insights into the functioning of groups and the individual's role in them;
- understand some of the factors that contribute to effective interpersonal relationships;
- develop self-respect, respect for the rights of others, and respect for the rule of law;
- appreciate the development of civilization through the ages and understand and respect customs, institutions, and the historical background of diverse social groups and communities;

⊡ develop an understanding of such concepts as *community, conflict, culture,* and *interdependence;*

- learn the social skills and attitudes upon which effective and responsible co-operation and participation depend.

SCIENCE & GEOGRAPHY

10. Understand the environment, both in terms of the nature of its parts and of the patterns that characterize it as a whole

- develop an awareness of the natural environment and of how it affects and in turn is affected by human activities, past and present;

⊡ develop an initial understanding of the relationships among natural things (e.g., the relationship between weather and erosion), among natural and manufactured things (e.g., between machinery and air pollution), and between people and things (e.g., between the quality of life and the automobile);

- perceive the development of patterns and relationships over time, such as the structure-function patterns of living things, the interdependence of living things, and the relation of the form and structure of materials to properties and function;

● develop concepts basic to science, such as *matter, mass, force, energy, time, temperature, change, interdependence, growth,* and *development.*

Canadian Studies

11. Acquire a reasoned knowledge of and pride in Canada

- become familiar with the geography and culture of the community, the province, and the country;
- develop an awareness of law and government, and of the rights and duties of Canadian citizens;
- become familiar with the historical development of the community and, at appropriate levels, of the province and the country;
- develop and retain a personal identity by becoming acquainted with the historical roots of the community and culture of his or her origin and by developing a sense of continuity with the past;
- begin to understand and appreciate the points of view of ethnic and cultural groups other than his or her own.

Summary of Classroom Observations
Concerning
PlJl Implementation

SUMMARY

Classroom Observation Instrument

N = 13

A. Organization of Space

I. Centres:

1 ☐ Math
☐ Science
1 ☐ Water
☐ Sand
☐ Paint
☐ Listening

☐ Take a part
☐ Viewing Centre
☐ Writing
5 ☐ Reading Area
2 ☐ Expressive Centres
3 ☐ Others eg. tape recording

II. Areas for Working

5 ☐ In small groups
13 ☐ Large Groups
2 ☐ Alone with the teacher

III Areas for Display

2 ☐ Different Learning Materials
12 ☐ Teacher's Input
6 ☐ Children's work

B. Materials and Resources

3-Dimensional Representation.

7 ☐ Counters
3 ☐ Building Blocks
4 ☐ Rods
3 ☐ Playdough or Plasticene
1 ☐ Containers
0 ☐ Other ______________________

0 ☐ Junk
3 ☐ Materials from Nature
3 ☐ Exploration Tools
11 ☐ Art Materials
13 ☐ Crayons, markers, felt pens.

2 Dimensional Resources

13 ☐ Books
0 ☐ Short Stories
12 ☐ Records (L.P. etc.)
5 ☐ Other Printed Materials
9 ☐ Textbooks
9 ☐ Games - Drills to reinforce skills
1 ☐ Other eg. Dictionaries .
0 ☐ Symbols
4 ☐ Charts and Chart Stories
5 ☐ Word Families
3 ☐ Number lines
12 ☐ Pictures, painting, diagrams
0 ☐ Graphs

3 Dimensional Resources

0 ☐ Geo Shapes
0 ☐ Diene's Blocks
2 ☐ Experience materials from Nature
1 ☐ Resources that the children bring: models, collections etc.
3 ☐ Multi-sensory materials, e.g. taste, musical instruments
8 ☐ Games - Drills to reinforce skills.
6 ☐ Other eg. Globe, puppet theatre, model farm, science kits.

C. Interactions of the Children:

Are there opportunities for interaction,

0 ☐ One-to-one
5 ☐ Small group
13 ☐ Large group
2 ☐ Student-teacher

D. How Children Record and Report Information

12 ☐ Workbook
0 ☐ Charts
7 ☐ Booklets
4 ☐ Chalkboard
0 ☐ Graphs or tallies
2 ☐ Tape Recorder
0 ☐ Photographs

0 ☐ Acetate overlays
7 ☐ Dittoes
1 ☐ Commercial workbooks
0 ☐ Displays
0 ☐ Personal log of activity
0 ☐ Sharing sessions
0 ☐ Other____________________